POOR LEGIBILITY

PORTIONS OF THIS DOCUMENT MAY BE UNREADABLE, DUE TO THE QUALITY OF THE ORIGINAL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

MAY 2 3 1990
4WD-WPB

Mr. John Taylor, Chief
Land Protection Branch
Georgia Department of Natural Resources
205 Butler Stree, S.W.
Atlanta, Georgia 30334

RE: CERCLA ACTIVITIES GEORGIA SITES

Dear Mr. Taylor:

This is to inform you that Georgia CERCLIS sites listed below have been assigned No Further Remedial Action Planned (NFRAP) designations. The reason for the designations are the low Preliminary Hazardous Ranking System (HRS) scores calculated for each of the site.

Please be advised that the NFRAP designations are based on information currently available and conditions and policies that currently exist.

GA POWER CO, VOGTLE ELEC GEN FAC	NFRAP	GAD094066321
BANKS COUNTY DRUM SITE	NFRAP	GAD981930183
GA KRAFT-ELLIJAY WORK CIR #23	NFRAP	GAD984274985
ROY DAVIS PROPERTY	NFRAP	GAD980841852
ATLANTA UTILITY WORKS	NFRAP	GAD003279387
NEWNAN/COWETA FIRE TRAINING	NFRAP	GAD981020753
EXIDE COMPANY	NFRAP	GAD079364766
SMITH-EVANS LUMBER COMPANY	NFRAP	GAD003322807
KHOURY TRAILER PARK	NFRAP	GAD984274555
WALDEN DRIVE OLD LANDFILL	NFRAP	GAD980847545
CENTRAL OF GEORGIA RR/DERAILMENT	NFRAP	GAD980556971
KENYON STREET DRUMS	NFRAP	GAD981930233
FORT OGLETHORPE DRUM SITE	NFRAP	GAD981929258
BFI, WATTS ROAD	NFRAP	GAD980495048

CERCLA work on the following sites continues as indicated on the copy of the enclosed enclosed:

GENERAL ELECTRIC COMPANY	*LSI-E	GAD003308145
CHARLES D. MCKISSICK PROPERTY	SSI	GAD980839807

*LSI-E--Listing Site Investigation Evaluation

YELLOW

It is possible that in the future our investigation of a site may be reactivated if new information or policies warrant such an action.

Should you have any questions, please contact me at (404) 347-5065.

Sincerely,

Mario E. Villamarzo
Georgia Project Officer
Site Assessment Section

cc: Murray Warner, NUS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
ADMINISTRATION
AND RESOURCES
MANAGEMENT

February 9, 1990

Mr. Paul Clay
Zone I Program Manager
NUS Corporation
1300 North 17th Street
Arlington, VA 22209

Dear Mr. Clay:

I am writing in response to your letter of January 25, 1990, concerning the potential organizational conflict of interest for Region III, and IV sites owned by Allied Corporation.

Based on information your firm furnished concerning your work for Allied, I have determined there is no organizational conflict of interest for ten of the eleven sites listed. The Hawkins Point Landfill Site is a conflict of interest and you may not accept Technical Directive Documents (TDD) for work on this site. You make accept the work assigned by the Technical Directive Document issued by the other 10 sites.

If you have any questions, please contact me at 382-6289.

Sincerely,

Ann L. Hamann

Ann L. Hamann
Contracting Officer
Remedial Action Branch (PM-214-F)

cc: EPA Region III
EPA Region IV

RECEIVED

FEB 14 1990

NUS CORPORATION
REGION IV
SENT TO

FEB 13 1990

ATTACHMENT 2

Jan 25, 1990

ALLIED SITES ASSIGNED TO REGION IV FIT OFFICE

Site Name	Site Address	CERCLIS ID#	Work Activity Assigned	Comments
Allied Chemical Corp.	Bibb County Macon, GA	GAD039136080	SSI, Phase I	Work on hold.
Eltra Corp. C & D Batteries Div.	Rockdale County Conyers, GA	GAD009703349	SSI, Phase I	Work on hold; Eltra is a subsidiary of Allied Corp.
Macon Pestres Concrete	Bibb County Macon, GA	GAD056221427	SSI, Phase I	Work on hold; site received silica waste from Allied Corp.
Atlanta Utility Works	Fulton County East Point, GA	GAD003279387	SSI, Phase I	Work nearly complete; site received silica waste from Allied Corp.
Eltra Corp. Prestolite Battery Plant	Fulton County East Point, GA	GAD003299476	SSI, Phase I and II	Phase I report submitted; Phase II pending; Eltra is a subsidiary of Allied Corp.
Eltra Corp. Prestolite Div.	Elbert County Elberton, GA	GAD079383469	SSI, Phase I	Work nearly complete; Eltra is a subsidiary of Allied Corp.
Frye Copysystems Inc.	Dekalb County Decatur, GA	GAD056221427	PA	Work completed; site owned by Allied-Signal, an Allied Corp. subsidiary.

NUS CORPORATION
1927 LAKESIDE PARKWAY
SUITE 614
TUCKER, GEORGIA 30084
404-938-7710

C-586-2-0-208

3-15-90
NFRAP
James Thomas

February 22, 1990

Mr. A.R. Hanke
Site Investigation and Support Branch
Waste Management Division
Environmental Protection Agency
345 Courtland Street, N. E.
Atlanta, Georgia 30365

Subject: Possible Conflict of Interest
Atlanta Utility Works
East Point, Fulton County, Georgia
EPA ID No. GAD003279387
TDD No. F4-8905-92

Dear Mr. Hanke:

FIT 4 was tasked to conduct a screening site inspection (SSI) of the Atlanta Utility Works facility. During the course of this inspection, it was found that a possible organizational conflict of interest (OCI) existed.

Ann Hamann, EPA Contracting Officer, was informed of the possible OCI. In the attached February 9, 1990 letter, she responded that no OCI exists.

The completed SSI, phase I is enclosed.

Very truly yours,

Geoffrey Carton
Geoffrey Carton
Georgia Section Leader

Approved:

GC/gwn

NUS
CORPORATION

1927 LAKESIDE PARKWAY
SUITE 614
TUCKER, GEORGIA 30084
404-938-7710

C-586-2-0-11

February 22, 1990

Mr. A. R. Hanke
Site Investigation and Support Branch
Waste Management Division
Environmental Protection Agency
345 Courtland Street, N. E.
Atlanta, Georgia 30365

Date: 3-14-90
Site Disposition: NFRAP
EPA Project Manager: Janice P. Thomas

Subject: **Screening Site Inspection, Phase I**
Atlanta Utility Works
East Point, Fulton County, Georgia
EPA ID No. GAD003279387
TDD No. F4-8905-92

Dear Mr. Hanke:

FIT 4 was tasked to conduct a Screening Site Inspection at Atlanta Utility Works in East Point, Fulton County, Georgia. Phase I of the inspection included a review of EPA and state file material, a target survey and an offsite reconnaissance of the site and surrounding area.

Atlanta Utility Works is located in an industrial/residential area of East Point, Georgia (Ref. 1). During an offsite reconnaissance of the facility, it was noted that Atlanta Utility Works is not located at the Washington Road address as listed in EPA and State file material (Refs. 2, 3). The facility is located on R.N. Martin Street, East Point, Georgia (Ref. 3). The facility has been at this location for approximately 91 years operating as a small machinery manufacturer (Ref. 4).

Between the years of 1972 and 1975, Atlanta Utility Works permitted Allied Chemical Company to bury 800 tons of silica in a 1-acre area of the property (Refs. 2, 4). The silica, an alum extract produced from sandblasting, was in sand form (Ref. 4). In December 1979, the state completed a preliminary assessment of the disposal area (Ref. 2). No other assessments have been performed on the disposal area. Atlanta Utility Works reportedly has never produced any hazardous waste and is not listed as a RCRA facility (Ref. 4).

Atlanta Utility Works is located in the Piedmont Physiographic Province and hydrogeologic regime, which is typified by a residual soil of variable thickness overlying folded, faulted and fractured metamorphic and igneous crystalline rocks of Paleozoic age (Ref. 5). The facility rests directly on the Tar Creek Member of the Clarkston Formation, which is an interlayered mica schist and amphibolite (Ref. 6).

The source of groundwater in the area is the surficial, unconfined residual soil/crystalline rock aquifer system. Although water levels are quite variable in this aquifer, the water table is generally located at an average depth of 90 to 100 feet below land surface (bls) in the vicinity of the facility (Ref. 7).

Mr. A.R. Hanke
Environmental Protection Agency
TDD No. F4-8905-92 - page two

The most common type of residual soil developed in area is a sandy clay to pure clay saprolite, which represents the layer with the lowest hydraulic conductivity between the underlying crystalline bedrock and the surface. Typical hydraulic conductivity values for sandy clays are in the range of 1×10^{-5} to 1×10^{-7} cm/sec (Ref. 7).

The net annual rainfall for this area is 7 inches, and the 1-year, 24-hour rainfall is 3.25 inches (Refs. 8, 9). During the offsite reconnaissance of the area of concern, it was noted that there were no private wells in the vicinity.

Water in the 4-mile radius and the city of East Point is supplied by the East Point Water Department, which obtains its water from an intake located on Sweetwater Creek (Ref. 10). The intake is not affected by the surface water runoff from the facility, which flows into the East Point Sewer System through a storm drain located on the property and a storm drain located on R. N. Martin Street at the entrance of the property (Refs. 3, 11). The East Point Sewer System ties into the South River Treatment Plant (Ref. 11).

The facility is within the city limits of East Point, which has a population of approximately 52,000 people (Refs. 1, 12). The nearest resident is a multi-family housing complex located 200 to 300 feet from the facility (Ref. 3). There are several schools, churches, and recreational facilities located within a 4-mile radius. The closest school is the Church Street School, located 2400 feet northwest of the disposal area (Refs. 1, 3).

Land use in the vicinity of the facility is both industrial and residential (Refs. 1, 3). During an offsite reconnaissance it was noted that there is only one entrance to the facility, and it is located on R.N. Martin Street The facility is entirely fenced (Ref. 3). Although the ranges of some endangered or threatened species include the state of Georgia, no critical habitats are designated in Fulton County (Ref. 13.).

Based on the results of this evaluation, FIT 4 recommends that no further remedial action be planned for Atlanta Utility Works. If you have any commends or questions about this assessment, please contact NUS Corporation.

Very truly yours,

Geoffrey Carter for
Martin R. Wilkerson
Project Manager

Approved:

MRW/gwn

REFERENCES

1. U.S. Geological Survey, 7.5 minute series Topographic Quadrangle maps of Georgia: Southwest Atlanta 1954 (Photorevised 1983), Northwest Atlanta 1954 (Photorevised 1983), Northeast Atlanta 1954 (Photorevised 1973), Southeast Atlanta 1954 (Photorevised 1983), scale 1:24,000.

2. Potential Hazardous Waste Site Preliminary Assessment (EPA Form T-2070-2) for Atlanta Utility Works. Filed by Robert I. Rose, December 19, 1979.

3. NUS Corporation Field Logbook No. F4-1573 for Atlanta Utility Works, TDD No. F4-8905-92. Documentation of facility reconnaissance, August 15, 1989.

4. Thomas G. Moore, Atlanta Utility Works, telephone conversation with Martin Wilkerson, October 16, 1989. Subject: Ownership, operation, and disposal dates.

5. E. LeGrand, Groundwater of the Piedmont and Blue Ridge Provinces in the Southeastern States, Circular 538, (U.S. Geological Survey, 1967), pp. 1-11.

6. Keith I. McConnel and Charlotte E. Abrams, Geology of the Greater Atlanta Region, Georgia Geologic Survey, Department of Natural Resources, Environmental Protection Division, (Atlanta, Georgia, 1984), pp. 50-52, 88.

7. C.W. Cressler, C.J. Thurmond, and W.G. Hester, Groundwater in the Greater Atlanta Region, Georgia. Information Circular 63, (Atlanta, Georgia: Georgia Geological Survey, 1983).

8. U.S. Department of Commerce, Climatic Atlas of the United States, (Washington, D.C.: CPO, June 1968) Reprint 1983, National Oceanic and Atmospheric Administration.

9. U.S. Department of Commerce, Rainfall Frequency Atlas of the United States, Technical Paper Number 40 (Washington, D.C.: GPO 1963).

10. Superintendent of the East Point Water Department, telephone conversation with Jeff Meyers, NUS Corporation, April 14, 1989. Subject: East Point Water Department water intake.

11. Phil Bingham, East Point Public Works Department, telephone conversation with Mary McDonald, NUS Corporation, September 14, 1989. Subject: Street sewers in East Point.

12. M. Reeves, East Point City Clerk, telephone conversation with Martin Wilkerson, NUS Corporation, September 14, 1989. Subject: Population census for East Point, Georgia.

13. U.S. Fish and Wildlife Service, Endangered and Threatened Species of the Southeastern United States, (Atlanta, Georgia, 1988), p. 45.

HAZARD RANKING SYSTEM SCORING SUMMARY

FOR

ATLANTA UTILITY WORKS
EPA SITE NUMBER GAD003279387
EAST POINT
FULTON COUNTY, GA
EPA REGION: 4

SCORE STATUS: IN PREPARATION

SCORED BY M. R. WILKERSON
OF NUS CORPORATION
ON 11/16/89

DATE OF THIS REPORT: 01/22/90
DATE OF LAST MODIFICATION: 01/22/90

GROUND WATER ROUTE SCORE	:	2.86
SURFACE WATER ROUTE SCORE	:	0.00
AIR ROUTE SCORE	:	0.00
MIGRATION SCORE	:	1.65

HRS GROUND WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0
2. ROUTE CHARACTERISTICS			
DEPTH TO WATER TABLE	95 FEET		
DEPTH TO BOTTOM OF WASTE	3 FEET		
DEPTH TO AQUIFER OF CONCERN	92 FEET	1	2
PRECIPITATION	48.0 INCHES		
EVAPORATION	41.0 INCHES		
NET PRECIPITATION	7.0 INCHES	2	2
PERMEABILITY	1.0X10-6 CM/SEC	1	1
PHYSICAL STATE		2	2
TOTAL ROUTE CHARACTERISTICS SCORE:			7
3. CONTAINMENT		3	3
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE:ASSIGNED VALUE,18			18
WASTE QUANTITY CUBIC YDS	2501		
DRUMS	0		
GALLONS	0		
TONS	0		
TOTAL	2501 CU. YDS	8	8
TOTAL WASTE CHARACTERISTICS SCORE:			26
5. TARGETS			
GROUND WATER USE		1	3
DISTANCE TO NEAREST WELL	0 FEET		
AND	MATRIX VALUE	0	0
TOTAL POPULATION SERVED	0 PERSONS		
NUMBER OF HOUSES	0		
NUMBER OF PERSONS	0		
NUMBER OF CONNECTIONS	0		
NUMBER OF IRRIGATED ACRES	0		
TOTAL TARGETS SCORE:			3

GROUND WATER ROUTE SCORE (Sgw) = 2.86

HRS SURFACE WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	ROUTE NOT SCORED		N/A
2. ROUTE CHARACTERISTICS			
SITE LOCATED IN SURFACE WATER			
SITE WITHIN CLOSED BASIN			
FACILITY SLOPE			
INTERVENING SLOPE			
24-HOUR RAINFALL			
DISTANCE TO DOWN-SLOPE WATER			
PHYSICAL STATE			
TOTAL ROUTE CHARACTERISTICS SCORE:			N/A
3. CONTAINMENT			N/A
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE:			
WASTE QUANTITY CUBIC YDS			
DRUMS			
GALLONS			
TONS			
TOTAL			
TOTAL WASTE CHARACTERISTICS SCORE:			N/A
5. TARGETS			
SURFACE WATER USE			
DISTANCE TO SENSITIVE ENVIRONMENT			
COASTAL WETLANDS			
FRESH-WATER WETLANDS			
CRITICAL HABITAT			
DISTANCE TO STATIC WATER			
DISTANCE TO WATER SUPPLY INTAKE AND TOTAL POPULATION SERVED	MATRIX VALUE		
NUMBER OF HOUSES			
NUMBER OF PERSONS			
NUMBER OF CONNECTIONS			
NUMBER OF IRRIGATED ACRES			
TOTAL TARGETS SCORE:			N/A

SURFACE WATER ROUTE SCORE (Ssw) = 0.00

HRS AIR ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0

2. WASTE CHARACTERISTICS

REACTIVITY: MATRIX VALUE

INCOMPATIBILITY

TOXICITY

WASTE QUANTITY CUBIC YARDS
DRUMS
GALLONS
TONS

TOTAL

TOTAL WASTE CHARACTERISTICS SCORE: N/A

3. TARGETS

POPULATION WITHIN 4-MILE RADIUS
0 to 0.25 mile
0 to 0.50 mile
0 to 1.0 mile
0 to 4.0 miles

DISTANCE TO SENSITIVE ENVIRONMENTS
COASTAL WETLANDS
FRESH-WATER WETLANDS
CRITICAL HABITAT

DISTANCE TO LAND USES
COMMERCIAL/INDUSTRIAL
PARK/FOREST/RESIDENTIAL
AGRICULTURAL LAND
PRIME FARMLAND
HISTORIC SITE WITHIN VIEW?

TOTAL TARGETS SCORE: N/A

AIR ROUTE SCORE (Sa) = 0.00

HAZARD RANKING SYSTEM SCORING CALCULATIONS
FOR
SITE: ATLANTA UTILITY WORKS
AS OF 01/22/90

GROUND WATER ROUTE SCORE

ROUTE CHARACTERISTICS		7
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	26
TARGETS	X	3

= 1638 /57,330 X 100 = 2.86 = S_{gw}

SURFACE WATER ROUTE SCORE

ROUTE CHARACTERISTICS		0
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	0
TARGETS	X	0

= 0 /64,350 X 100 = 0.00 = S_{sw}

AIR ROUTE SCORE

OBSERVED RELEASE 0 /35,100 X 100 = 0.00 = S_{air}

SUMMARY OF MIGRATION SCORE CALCULATIONS

	S	S^2
GROUND WATER ROUTE SCORE (S_{gw})	2.86	8.18
SURFACE WATER ROUTE SCORE (S_{sw})	0.00	0.00
AIR ROUTE SCORE (S_{air})	0.00	0.00
$S^2_{gw} + S^2_{sw} + S^2_{air}$		8.18
$\sqrt{(S^2_{gw} + S^2_{sw} + S^2_{air})}$		2.86
$S_M = \sqrt{(S^2_{gw} + S^2_{sw} + S^2_{air})}/1.73$		1.65

RECONNAISSANCE CHECKLIST FOR HRS2 CONCERNS

Instructions: Obtain as much "up front" information as possible prior to conducting fieldwork. Complete the form in as much detail as you can, providing attachments as necessary. Cite the source for all information obtained.

Site Name: Atlanta Utility Works
City, County, State: East Point, Fulton County, Georgia
EPA ID No.: GAD003279387
Person responsible for form: MARTIN R. WILKERSON
Date: October 5, 1989

Air Pathway

Describe any potential air emission sources onsite: Silica Solids may be exposed to air/wind

Identify any sensitive environments within 4 miles: None

Identify the maximally exposed individual (nearest residence or regularly occupied building - workers do count): Workers now occupying Atlanta Utility Works Building.

Groundwater Pathway

Identify any areas of karst terrain: None

Identify additional population due to consideration of wells completed in overlying aquifers to the AOC: None.

Do significant targets exist between 3 and 4 miles from the site? No

Is the AOC a sole source aquifer according to Safe Drinking Water Act? (i.e. is the site located in Dade, Broward, Volusia, Putnam, or Flagler County, Florida): No

Surface Water Pathway

Are there intakes located on the extended 15-mile migration pathway? No

Are there recreational areas, sensitive environments, or human food chain targets (fisheries) along the extended pathway? Recreational fishing occurs along the South River (Ref. 1[illegible]

Onsite Exposure Pathway

Is there waste or contaminated soil onsite at 2 feet below land surface or higher? The possibility exists.

Is the site accessible to non-employees (workers do not count)? No (Ref. 1).

Are there residences, schools, or day care centers onsite or in close proximity? Yes (Ref. 5).

Are there barriers to travel (e.g., a river) within one mile? No

Site Inspection Report

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GAD	003279337

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	Atlanta Utility Works
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER	1504 WASHINGTON AVE.
03 CITY	EAST POINT
04 STATE	GA
05 ZIP CODE	30344
06 COUNTY	Fulton
07 COUNTY CODE	
08 CONG. DIST.	
09 COORDINATES LATITUDE	33 40 34.
LONGITUDE	084 26 40.0

10 TYPE OF OWNERSHIP (Check one)
☑ A. PRIVATE ☐ B. FEDERAL ______ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER ______ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 08 15 89 (MONTH DAY YEAR)

02 SITE STATUS: ☑ ACTIVE ☐ INACTIVE

03 YEARS OF OPERATION: ______ / ______ (BEGINNING YEAR / ENDING YEAR) ☐ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☑ B. EPA CONTRACTOR NUS CORPORATION (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ______ (Name of firm)
☐ E. STATE ☐ F. STATE CONTRACTOR ______ (Name of firm) ☐ G. OTHER ______ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
MARTIN R. WILKERSON	SR. Field Technician	NUS Corp	404 938-7710

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
			( )
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
			( )
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☐ PERMISSION ☐ WARRANT		

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
MARIO VILLAMARZO	EPA	(404) 347-5065

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
MARTIN R. WILKERSON		NUS Corp.	(404) 938-7710	10/05/89 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA D	003274387

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES: ✓ A. SOLID; B. POWDER, FINES; C. SLUDGE; D. OTHER; E. SLURRY; F. LIQUID; G. GAS

02 WASTE QUANTITY AT SITE: TONS ____; CUBIC YARDS UNK.; NO. OF DRUMS ____

03 WASTE CHARACTERISTICS: A. TOXIC; B. CORROSIVE; C. RADIOACTIVE; D. PERSISTENT; E. SOLUBLE; F. INFECTIOUS; G. FLAMMABLE; H. IGNITABLE; I. HIGHLY VOLATILE; J. EXPLOSIVE; K. REACTIVE; L. INCOMPATIBLE; M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE /Gel - Silica Solids	300 tons	tons	
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES See Appendix for most frequently cited CAS Numbers

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Preliminary Assessment done in Dec. 1979 by Robert Rose.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFIC	
01 STATE	02 S
CA	D00

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED NONE
02 OBSERVED DATE ______
04 NARRATIVE DESCRIPTION
POTENTIAL

01 B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED NON
02 OBSERVED DATE ______
04 NARRATIVE DESCRIPTION
POTENTIAL AL

01 C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED UNKNOWN
02 OBSERVED DATE ______
04 NARRATIVE DESCRIPTION
POTENTIAL ALLEGED

01 D. FIRE EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED ______
02 OBSERVED DATE ______
04 NARRATIVE DESCRIPTION
POTENTIAL ALLEGED

01 E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED NONE
02 OBSERVED DATE ______
04 NARRATIVE DESCRIPTION
POTENTIAL ALLEGED

01 F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED 1 Acres
02 OBSERVED DATE ______
04 NARRATIVE DESCRIPTION
✓ POTENTIAL ALLEGED

01 G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED ______
02 OBSERVED DATE ______
04 NARRATIVE DESCRIPTION
POTENTIAL ALLEGED

01 H. WORKER EXPOSURE INJURY
03 WORKERS POTENTIALLY AFFECTED ______
02 OBSERVED DATE ______
04 NARRATIVE DESCRIPTION
POTENTIAL ALLEGED

01 I. POPULATION EXPOSURE INJURY
03 POPULATION POTENTIALLY AFFECTED ______
02 OBSERVED DATE ______
04 NARRATIVE DESCRIPTION
POTENTIAL ALLEGED

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE: GA | 02 SITE NUMBER: D003279387

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
(Spills Runoff Standing liquids Leaking drums)
03 POPULATION POTENTIALLY AFFECTED ______ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: ______

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CA	D003279387

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
A. NPDES				
B. UIC				
C. AIR				
D. RCRA				
E. RCRA INTERIM STATUS				
F. SPCC PLAN				
G. STATE				
H. LOCAL				
I. OTHER				
J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☑ H. OPEN DUMP	UNK.	
☐ I. OTHER ______ (Specify)		

04 TREATMENT (Check all that apply)

☐ A. INCENERATION
☐ B. UNDERGROUND INJECTION
☐ C. CHEMICAL/PHYSICAL
☐ D. BIOLOGICAL
☐ E. WASTE OIL PROCESSING
☐ F. SOLVENT RECOVERY
☐ G. OTHER RECYCLING/RECOVERY
☐ H. OTHER ______ (Specify)

05 OTHER

A. BUILDINGS ON SITE

06 AREA OF SITE

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

No record of containment exist

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☐ YES ☐ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

EPA, STATE FILES

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CAD	003279387

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A ✓	B ☐
NON-COMMUNITY	C ☐	D ☐

02 STATUS

	ENDANGERED	AFFECTED	MONITORED
COMMUNITY	A ☐	B ☐	C ✓
NON-COMMUNITY	D ☐	E ☐	F ☐

03 DISTANCE TO SITE

A ________ (mi)
B ________ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING
☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
✓ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER ________

03 DISTANCE TO NEAREST DRINKING WATER WELL NA (mi)

04 DEPTH TO GROUNDWATER 90' (ft)

05 DIRECTION OF GROUNDWATER FLOW ________

06 DEPTH TO AQUIFER OF CONCERN 90' (ft)

07 POTENTIAL YIELD OF AQUIFER ________ (gpd)

08 SOLE SOURCE AQUIFER ☐ YES ✓ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

No drinking well exists within 4 miles of the facility

10 RECHARGE AREA ☐ YES ☐ NO COMMENTS

11 DISCHARGE AREA ☐ YES ☐ NO COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

✓ A. RESERVOIR, RECREATION DRINKING WATER SOURCE
☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☐ C. COMMERCIAL, INDUSTRIAL
☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME	AFFECTED	DISTANCE TO SITE
	☐	(mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE A ________ NO. OF PERSONS
TWO (2) MILES OF SITE B ________ NO. OF PERSONS
THREE (3) MILES OF SITE C ________ NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION .3 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE ________

04 DISTANCE TO NEAREST OFF-SITE BUILDING ________ (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

EPA, STATE, FITH FILES

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
CAD	003279337

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE

☐ A ... cm sec ✓ B $10^{-4} - 10^{-6}$ cm sec ☐ C $10^{-4} - 10^{-3}$ cm sec ☐ D GREATER THAN 10^{-3} cm sec

02 PERMEABILITY OF BEDROCK

☐ A IMPERMEABLE ✓ B RELATIVELY IMPERMEABLE ☐ C RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm sec) ☐ D VERY PERMEABLE (Greater than 10^{-2} cm sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
(ft)	UNK. (ft)	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
7" (in)	3.3 (in)	5 %		10 %

09 FLOOD POTENTIAL

SITE IS IN ____ YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE A ____ (mi) OTHER B ____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species) ____ (mi)

ENDANGERED SPECIES ____

13 LAND USE IN VICINITY

DISTANCE TO

COMMERCIAL INDUSTRIAL	RESIDENTIAL AREAS, NATIONAL STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS PRIME AG LAND	AG LAND
A .4 (mi)	B .4 (mi)	C ____ (mi)	D ____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA, STATE, FITH FILES.

EPA	POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 6 - SAMPLE AND FIELD INFORMATION	I. IDENTIFICATION 01 STATE: GAD 02 SITE NUMBER: 003279387

II. SAMPLES TAKEN N/A

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN N/A

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☐ GROUND ☐ AERIAL

02 IN CUSTODY OF ____________________
(Name of organization or individual)

03 MAPS
☐ YES
☐ NO

04 LOCATION OF MAPS ____________________

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GAD	003279387

II. CURRENT OWNER(S) / PARENT COMPANY (If applicable)

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
Atlanta Utility Works			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
5201 Washington Ave.			

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE
~~At~~ East Point	GA				

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first) / IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA, STATE FILES.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
CAD	00327[illegible]887

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GA	D003279387

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
GA	D003279387

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ F. WASTE REPACKAGED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

NA

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: GA | 02 SITE NUMBER: D003279387

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
GAD	003279387

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

APPENDIX

I. FEEDSTOCKS

CAS Number	Chemical Name
1. 7664-41-7	Ammonia
2. 7440-36-0	Antimony
3. 1309-64-4	Antimony Trioxide
4. 7440-38-2	Arsenic
5. 1327-53-3	Arsenic Trioxide
6. 21109-95-5	Barium Sulfide
7. 7726-95-6	Bromine
8. 106-99-0	Butadiene
9. 7440-43-9	Cadmium
10. 7782-50-5	Chlorine
11. 12737-27-8	Chromite
12. 7440-47-3	Chromium
13. 7440-48-4	Cobalt
14. 1317-38-0	Cupric Oxide
15. 7758-98-7	Cupric Sulfate
16. 1317-39-1	Cuprous Oxide
17. 74-85-1	Ethylene
18. 7647-01-0	Hydrochloric Acid
19. 7664-39-3	Hydrogen Fluoride
20. 1335-25-7	Lead Oxide
21. 7439-97-6	Mercury
22. 74-82-8	Methane
23. 91-20-3	Napthalene
24. 7440-02-0	Nickel
25. 7697-37-2	Nitric Acid
26. 7723-14-0	Phosphorus
27. 7778-50-9	Potassium Dichromate
28. 1310-58-3	Potassium Hydroxide
29 115-07-1	Propylene
30. 10588-01-9	Sodium Dichromate
31. 1310-73-2	Sodium Hydroxide
32. 7646-78-8	Stannic Chloride
33. 7772-99-8	Stannous Chloride
34. 7664-93-9	Sulfuric Acid
35. 108-88-3	Toluene
36. 1330-20-7	Xylene
37. 7646-85-7	Zinc Chloride
38. 7733-02-0	Zinc Sulfate

II. HAZARDOUS SUBSTANCES

CAS Number	Chemical Name
1. 75-07-0	Acetaldehyde
2. 64-19-7	Acetic Acid
3. 108-24-7	Acetic Anhydride
4. 75-86-5	Acetone Cyanohydrin
5. 506-96-7	Acetyl Bromide
6. 75-36-5	Acetyl Chloride
7. 107-02-8	Acrolein
8. 107-13-1	Acrylonitrile
9. 124-04-9	Adipic Acid
10. 309-00-2	Aldrin
11. 10043-01-3	Aluminum Sulfate
12. 107-18-6	Allyl Alcohol
13. 107-05-1	Allyl Chloride
14. 7664-41-7	Ammonia
15. 631-61-8	Ammonium Acetate
16. 1863-63-4	Ammonium Benzoate
17. 1066-33-7	Ammonium Bicarbonate
18. 7789-09-5	Ammonium Bichromate
19. 1341-49-7	Ammonium Bifluoride
20. 10192-30-0	Ammonium Bisulfite
21. 1111-78-0	Ammonium Carbamate
22. 12125-02-9	Ammonium Chloride
23. 7788-98-9	Ammonium Chromate
24. 3012-65-5	Ammonium Citrate, Dibasic
25. 13826-83-0	Ammonium Fluoborate
26. 12125-01-8	Ammonium Fluoride
27 1336-21-6	Ammonium Hydroxide
28. 6009-70-7	Ammonium Oxalate
29 16919-19-0	Ammonium Silicofluoride
30. 7773-06-0	Ammonium Sulfamate
31. 12135-76-1	Ammonium Sulfide
32. 10196-04-0	Ammonium Sulfite
33. 14307-43-8	Ammonium Tartrate
34. 1762-95-4	Ammonium Thiocyanate
35. 7783-18-8	Ammonium Thiosulfate
36. 628-63-7	Amyl Acetate
37. 62-53-3	Aniline
38. 7647-18-9	Antimony Pentachloride
39. 7789-61-9	Antimony Tribromide
40. 10025-91-9	Antimony Trichloride
41. 7783-56-4	Antimony Trifluoride
42. 1309-64-4	Antimony Trioxide
43. 1303-32-8	Arsenic Disulfide
44. 1303-28-2	Arsenic Pentoxide
45. 7784-34-1	Arsenic Trichloride
46. 1327-53-3	Arsenic Trioxide
47. 1303-33-9	Arsenic Trisulfide
48. 542-62-1	Barium Cyanide
49. 71-43-2	Benzene
50. 65-85-0	Benzoic Acid
51. 100-47-0	Benzonitrile
52. 98-88-4	Benzoyl Chloride
53. 100-44-7	Benzyl Chloride
54. 7440-41-7	Beryllium
55. 7787-47-5	Beryllium Chloride
56. 7787-49-7	Beryllium Fluoride
57. 13597-99-4	Beryllium Nitrate
58. 123-86-4	Butyl Acetate
59. 84-74-2	n-Butyl Phthalate
60. 109-73-9	Butylamine
61. 107-92-6	Butyric Acid
62. 543-90-8	Cadimium Acetate
63. 7789-42-6	Cadmium Bromide
64. 10108-64-2	Cadmium Chloride
65. 7778-44-1	Calcium Arsenate
66. 52740-16-6	Calcium Arsenite
67. 75-20-7	Calcium Carbide
68. 13765-19-0	Calcium Chromate
69. 592-01-8	Calcium Cyanide
70. 26264-06-2	Calcium Dodecylbenzene Sulfonate
71. 7778-54-3	Calcium Hypochlorite
72. 133-06-2	Captan
73. 63-25-2	Carbaryl
74. 1563-66-2	Carbofuran
75. 75-15-0	Carbon Disulfide
76. 56-23-5	Carbon Tetrachloride
77. 57-74-9	Chlordane
78. 7782-50-5	Chlorine
79. 108-90-7	Chlorobenzene
80. 67-66-3	Chloroform
81. 7790-94-5	Chlorosulfonic Acid
82. 2921-88-2	Chlorpyrifos
83. 1066-30-4	Chromic Acetate
84. 7738-94-5	Chromic Acid
85. 10101-53-8	Chromic Sulfate
86. 10049-05-5	Chromous Chloride
87. 544-18-3	Cobaltous Formate
88. 14017-41-5	Cobaltous Sulfamate
89. 56-72-4	Coumaphos
90. 1319-77-3	Cresol
91. 4170-30-3	Crotonaldehyde
92. 142-71-2	Cupric Acetate
93. 12002-03-8	Cupric Acetoarsenite
94. 7447-39-4	Cupric Chloride
95. 3251-23-8	Cupric Nitrate
96. 5893-66-3	Cupric Oxalate
97. 7758-98-7	Cupric Sulfate
98. 10380-29-7	Cupric Sulfate Ammoniated
99. 815-82-7	Cupric Tartrate
100. 506-77-4	Cyanogen Chloride
101. 110-82-7	Cyclohexane
102. 94-75-7	2,4-D Acid
103. 94-11-1	2,4-D Esters
104. 50-29-3	DDT
105. 333-41-5	Diazinon
106. 1918-00-9	Dicamba
107. 1194-65-6	Dichlobenil
108. 117-80-6	Dichlone
109. 25321-22-6	Dichlorobenzene (all isomers)
110. 266-38-19-7	Dichloropropane (all isomers)
111. 26952-23-8	Dichloropropene (all isomers)
112. 8003-19-8	Dichloropropene-Dichloropropane Mixture
113. 75-99-0	2-2-Dichloropropionic Acid
114. 62-73-7	Dichlorvos
115. 60-57-1	Dieldrin
116. 109-89-7	Diethylamine
117. 124-40-3	Dimethylamine
118. 25154-54-5	Dinitrobenzene (all isomers)
119. 51-28-5	Dinitrophenol
120. 25321-14-6	Dinitrotoluene (all isomers)
121. 85-00-7	Diquat
122. 298-04-4	Disulfoton
123. 330-54-1	Diuron
124. 27176-87-0	Dodecylbenzenesulfonic Acid
125. 115-29-7	Endosulfan (all isomers)
126. 72-20-8	Endrin and Metabolites
127. 106-89-8	Epichlorohydrin
128. 563-12-2	Ethion
129. 100-41-4	Ethyl Benzene
130. 107-15-3	Ethylenediamine
131. 106-93-4	Ethylene Dibromide
132. 107-06-2	Ethylene Dichloride
133. 60-00-4	EDTA
134. 1185-57-5	Ferric Ammonium Citrate
135. 2944-67-4	Ferric Ammonium Oxalate
136. 7705-08-0	Ferric Chloride

II. HAZARDOUS SUBSTANCES

CAS Number	Chemical Name
137. 7783-50-8	Ferric Fluoride
138. 10421-48-4	Ferric Nitrate
139. 10028-22-5	Ferric Sulfate
140. 10045-89-3	Ferrous Ammonium Sulfate
141. 7758-94-3	Ferrous Chloride
142. 7720-78-7	Ferrous Sulfate
143. 206-44-0	Fluoranthene
144. 50-00-0	Formaldehyde
145. 64-18-6	Formic Acid
146. 110-17-8	Fumaric Acid
147. 98-01-1	Furfural
148. 86-50-0	Guthion
149. 76-44-8	Heptachlor
150. 118-74-1	Hexachlorobenzene
151. 87-68-3	Hexachlorobutadiene
152. 67-72-1	Hexachloroethane
153. 70-30-4	Hexachlorophene
154. 77-47-4	Hexachlorocyclopentadiene
155. 7647-01-0	Hydrochloric Acid (Hydrogen Chloride)
156. 7664-39-3	Hydrofluoric Acid (Hydrogen Fluoride)
157. 74-90-8	Hydrogen Cyanide
158. 7783-06-4	Hydrogen Sulfide
159. 78-79-5	Isoprene
160. 42504-46-1	Isopropanolamine Dodecylbenzenesulfonate
161. 115-32-2	Kelthane
162. 143-50-0	Kepone
163. 301-04-2	Lead Acetate
164. 3687-31-8	Lead Arsenate
165. 7758-95-4	Lead Chloride
166. 13814-96-5	Lead Fluoborate
167. 7783-46-2	Lead Fluoride
168. 10101-63-0	Lead Iodide
169. 18256-98-9	Lead Nitrate
170. 7428-48-0	Lead Stearate
171. 15739-80-7	Lead Sulfate
172. 1314-87-0	Lead Sulfide
173. 592-87-0	Lead Thiocyanate
174. 58-89-9	Lindane
175. 14307-35-8	Lithium Chromate
176. 121-75-5	Malthion
177. 110-16-7	Maleic Acid
178. 108-31-6	Maleic Anhydride
179. 2032-65-7	Mercaptodimethur
180. 592-04-1	Mercuric Cyanide
181. 10045-94-0	Mercuric Nitrate
182. 7783-35-9	Mercuric Sulfate
183. 592-85-8	Mercuric Thiocyanate
184. 10415-75-5	Mercurous Nitrate
185. 72-43-5	Methoxychlor
186. 74-93-1	Methyl Mercaptan
187. 80-62-6	Methyl Methacrylate
188. 298-00-0	Methyl Parathion
189. 7786-34-7	Mevinphos
190. 315-18-4	Mexacarbate
191. 75-04-7	Monoethylamine
192. 74-89-5	Monomethylamine
193. 300-76-5	Naled
194. 91-20-3	Naphthalene
195. 1338-24-5	Naphthenic Acid
196. 7440-02-0	Nickel
197. 15699-18-0	Nickel Ammonium Sulfate
198. 37211-05-5	Nickel Chloride
199. 12054-48-7	Nickel Hydroxide
200. 14216-75-2	Nickel Nitrate
201. 7786-81-4	Nickel Sulfate
202. 7697-37-2	Nitric Acid
203. 98-95-3	Nitrobenzene
204. 10102-44-0	Nitrogen Dioxide
205. 25154-55-6	Nitrophenol (all isomers)
206. 1321-12-6	Nitrotoluene
207. 30525-89-4	Paraformaldehyde
208. 56-38-2	Parathion
209. 608-93-5	Pentachlorobenzene
210. 87-86-5	Pentachlorophenol
211. 85-01-8	Phenanthrene
212. 108-95-2	Phenol
213. 75-44-5	Phosgene
214. 7664-38-2	Phosphoric Acid
215. 7723-14-0	Phosphorus
216. 10025-87-3	Phosphorus Oxychloride
217. 1314-80-3	Phosphorus Pentasulfide
218. 7719-12-2	Phosphorus Trichloride
219. 7784-41-0	Potassium Arsenate
220. 10124-50-2	Potassium Arsenite
221. 7778-50-9	Potassium Bichromate
222. 7789-00-6	Potassium Chromate
223. 7722-64-7	Potassium Permanganate
224. 2312-35-8	Propargite
225. 79-09-4	Propionic Acid
226. 123-62-6	Propionic Anhydride
227. 1336-36-3	Polychlorinated Biphenyls
228. 151-50-8	Potassium Cyanide
229. 1310-58-3	Potassium Hydroxide
230. 75-56-9	Propylene Oxide
231. 121-29-9	Pyrethrins
232. 91-22-5	Quinoline
233. 108-46-3	Resorcinol
234. 7446-08-4	Selenium Oxide
235. 7761-88-8	Silver Nitrate
236. 7631-89-2	Sodium Arsenate
237. 7784-46-5	Sodium Arsenite
238. 10588-01-9	Sodium Bichromate
239. 1333-83-1	Sodium Bifluoride
240. 7631-90-5	Sodium Bisulfite
241. 7775-11-3	Sodium Chromate
242. 143-33-9	Sodium Cyanide
243. 25155-30-0	Sodium Dodecylbenzene Sulfonate
244. 7681-49-4	Sodium Fluoride
245. 16721-80-5	Sodium Hydrosulfide
246. 1310-73-2	Sodium Hydroxide
247. 7681-52-9	Sodium Hypochlorite
248. 124-41-4	Sodium Methylate
249. 7632-00-0	Sodium Nitrate
250. 7558-79-4	Sodium Phosphate, Dibasic
251. 7601-54-9	Sodium Phosphate, Tribasic
252. 10102-18-8	Sodium Selenite
253. 7789-06-2	Strontium Chromate
254. 57-24-9	Strychnine and Salts
255. 100-420-5	Styrene
256. 12771-08-3	Sulfur Monochloride
257. 7664-93-9	Sulfuric Acid
258. 93-76-5	2,4,5-T Acid
259. 2008-46-0	2,4,5-T Amines
260. 93-79-8	2,4,5-T Esters
261. 13560-99-1	2,4,5-T Salts
262. 93-72-1	2,4,5-TP Acid
263. 32534-95-5	2,4,5-TP Acid Esters
264. 72-54-8	TDE
265. 95-94-3	Tetrachlorobenzene
266. 127-18-4	Tetrachloroethane
267. 78-00-2	Tetraethyl Lead
268. 107-49-3	Tetraethyl Pyrophosphate
269. 7446-18-6	Thallium (I) Sulfate
270. 108-88-3	Toluene
271. 8001-35-2	Toxaphene
272. 12002-48-1	Trichlorobenzene (all isomers)
273. 52-68-6	Trichlorfon
274. 25323-89-1	Trichloroethane (all isomers)
275. 79-01-6	Trichloroethylene
276. 25167-82-2	Trichlorophenol (all isomers)
277. 27323-41-7	Triethanolamine Dodecylbenzenesulfonate
278. 121-44-8	Triethylamine
279. 75-50-3	Trimethylamine
280. 541-09-3	Uranyl Acetate
281. 10102-06-4	Uranyl Nitrate
282. 1314-62-1	Vanadium Pentoxide
283. 27774-13-6	Vanadyl Sulfate
284. 108-05-4	Vinyl Acetate
285. 75-35-4	Vinylidene Chloride
286. 1300-71-6	Xylenol
287. 557-34-6	Zinc Acetate
288. 52628-25-8	Zinc Ammonium Chloride
289. 1332-07-6	Zinc Borate
290. 7699-45-8	Zinc Bromide
291. 3486-35-9	Zinc Carbonate
292. 7646-85-7	Zinc Chloride
293. 557-21-1	Zinc Cyanide
294. 7783-49-3	Zinc Fluoride
295. 557-41-5	Zinc Formate
296. 7779-86-4	Zinc Hydrosulfite
297. 7779-88-6	Zinc Nitrate
298. 127-82-2	Zinc Phenolsulfonate
299. 1314-84-7	Zinc Phosphide
300. 16871-71-9	Zinc Silicofluoride
301. 7733-02-0	Zinc Sulfate
302. 13746-89-9	Zirconium Nitrate
303. 16923-95-8	Zirconium Potassium Fluoride
304. 14644-61-2	Zirconium Sulfate
305. 10026-11-6	Zirconium Tetrachloride

Reference

#1

OVERSIZED

DOCUMENT

MAP

GAD003327958

EPA

POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION: 4

SITE NUMBER (to be assigned by Hq): 588

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is ... forms as a result of additional inquiries and on-site inspections.

REFERENCE 2

GENERAL INSTRUCTIO... ...ssible before Section II (*Preliminary Assessment*). File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (*EN-335*); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: Atlanta Utility Works	B. STREET (or other identifier): 1504 Washington Avenue

C. CITY: East Point	D. STATE: GA	E. ZIP CODE: 30344	F. COUNTY NAME: Fulton

G. OWNER/OPERATOR (if known)

1. NAME: Allied Chemical Corporation
2. TELEPHONE NUMBER: 404/761-1181

H. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☒ 5. PRIVATE ☐ 6. UNKNOWN

I. SITE DESCRIPTION

1 acre area presently closed and grown over with vegetation used for disposal of 800 tons of solid material (silica)

J. HOW IDENTIFIED (i.e., citizen's complaints, OSHA citations, etc.): Eckhardt Commission Survey

K. DATE IDENTIFIED (mo., day, & yr.): Dec. 1979

L. PRINCIPAL STATE CONTACT

1. NAME: Moses N. McCall, Chief, Land Protection Branch, EPD
2. TELEPHONE NUMBER: 404/656-2833

II. PRELIMINARY ASSESSMENT (complete this section last)

A. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☐ 2. MEDIUM ☐ 3. LOW ☒ 4. NONE ☐ 5. UNKNOWN

B. RECOMMENDATION

☒ 1. NO ACTION NEEDED (*no hazard*)

☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR
b. WILL BE PERFORMED BY:

☐ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 4. SITE INSPECTION NEEDED (*low priority*)

C. PREPARER INFORMATION

1. NAME: Robert I. Rose	2. TELEPHONE NUMBER: 404/656-2833	3. DATE (mo., day, & yr.): 12-19-79

III. SITE INFORMATION

A. SITE STATUS

☐ 1. ACTIVE (*Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.*)

☒ 2. INACTIVE (*Those sites which no longer receive wastes.*)

☐ 3. OTHER (specify): (*Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.*)

B. IS GENERATOR ON SITE?

☒ 1. NO ☐ 2. YES (*specify generator's four-digit SIC Code*)

C. AREA OF SITE (in acres): 1

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES

1. LATITUDE (deg.-min.-sec.)
2. LONGITUDE (deg.-min.-sec.)

E. ARE THERE BUILDINGS ON THE SITE?

☒ 1. NO ☐ 2. YES (*specify*):

Continued From Front

IV. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	'X'	B. STORER	'X'	C. TREATER	'X'	D. DISPOSER
	1. RAIL	X	1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION	X	3. OPEN DUMP
X	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS. TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify): None		

E. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED

Disposal of silica - pH 3.5 .

V. WASTE RELATED INFORMATION

A. WASTE TYPE

[ ] 1 UNKNOWN [ ] 2. LIQUID [X] 3. SOLID [ ] 4. SLUDGE [ ] 5. GAS

B. WASTE CHARACTERISTICS

[ ] 1. UNKNOWN [ ] 2. CORROSIVE [ ] 3. IGNITABLE [ ] 4 RADIOACTIVE [ ] 5 HIGHLY VOLATILE
[ ] 6. TOXIC [ ] 7 REACTIVE [ ] 8 INERT [ ] 9 FLAMMABLE

[ ] 10. OTHER (specify): None

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

Records and estimates

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

	a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT					800	
UNIT OF MEASURE					tons	
'X'	(1) PAINT, PIGMENTS	(1) OILY WASTES	(1) HALOGENATED SOLVENTS	(1) ACIDS	(1) FLYASH	(1) LABORATORY PHARMACEUT.
	(2) METALS SLUDGES	(2) OTHER (specify):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
	(3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
	(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMLTG. WASTES	(4) MUNICIPAL
	(5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER (specify)
				(6) CYANIDE	X (6) OTHER (specify): Silica residuals pH 3.5	
				(7) PHENOLS		
				(8) HALOGENS		
				(9) PCB		
				(10) METALS		
				(11) OTHER (specify)		

Continue On Page 3

Continued From Page 2

V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of hazard).

None

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

None

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	D. DATE OF INCIDENT (mo., day, yr.)	E. REMARKS
1. NO HAZARD				
2. HUMAN HEALTH				
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY				
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER				
8. CONTAMINATION OF SURFACE WATER				
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL				
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS				
13. CONTAMINATION OF SOIL				
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS				
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER (specify):				

Continued From Front

VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE.

- [ ] 1. NPDES PERMIT
- [ ] 2. SPCC PLAN
- [ ] 3. STATE PERMIT *(specify)*:
- [ ] 4. AIR PERMITS
- [ ] 5. LOCAL PERMIT
- [ ] 6. RCRA TRANSPORTER
- [ ] 7. RCRA STORER
- [ ] 8. RCRA TREATER
- [ ] 9. RCRA DISPOSER
- [ ] 10. OTHER *(specify)*: None

B. IN COMPLIANCE?

- [ ] 1. YES
- [ ] 2. NO
- [X] 3. UNKNOWN

4. WITH RESPECT TO *(list regulation name & number)*: [illegible]

VIII. PAST REGULATORY ACTIONS

- [X] A. NONE
- [ ] B. YES *(summarize below)*

IX. INSPECTION ACTIVITY *(past or on-going)*

- [ ] A. NONE
- [X] B. YES *(complete items 1,2,3, & 4 below)*

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION
Survey	None	EPD	Eckhardt Survey

X. REMEDIAL ACTIVITY *(past or on-going)*

- [X] A. NONE
- [ ] B. YES *(complete items 1, 2, 3, & 4 below)*

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION

NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment *(Section II)* information on the first page of this form.

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LEVEL

Notebook No. 311

F4-1573

F4-8905-92

ATLANTA UTILITY WORKS

EAST POINT, GA

MARTIN R. WILKERSON

REFERENCE 3

LOGBOOK REQUIREMENTS
REVISED - NOVEMBER 29, 1988

NOTE: ALL LANGUAGE SHOULD BE FACTUAL AND OBJECTIVE

1. Record on front cover of the Logbook: TDD No., Site Name, Site Location, Project Manager.

2. All entries are made using ink. Draw a single line through errors. Initial and date corrections.

3. Statement of Work Plan, Study Plan, and Safety Plan discussion and distribution to field team with team members' signatures.

4. Record weather conditions and general site information.

5. Sign and date each page. Project Manager is to review and sign off on each logbook daily.

6. Document all calibration and pre-operational checks of equipment. Provide serial numbers of equipment used onsite.

7. Provide reference to Sampling Field Sheets for detailed sampling information.

8. Describe sampling locations <u>in detail</u> and document all changes from project planning documents.

9. Provide a site sketch with sample locations and photo locations.

10. Maintain photo log by completing the stamped information at the end of the logbook.

11. If no site representative is on hand to accept the receipt for samples, an entry to that effect must be placed in the logbook.

12. Record I.D. numbers of COC and receipt for sample forms used. Also record numbers of destroyed documents.

13. Complete SMO information in the space provided.

I HAVE READ AND UNDERSTAND THE PHASE I
WORK PLAN FOR THIS FACILITY.

Left office at 12:30
Arrived at 1:30
8/15/89

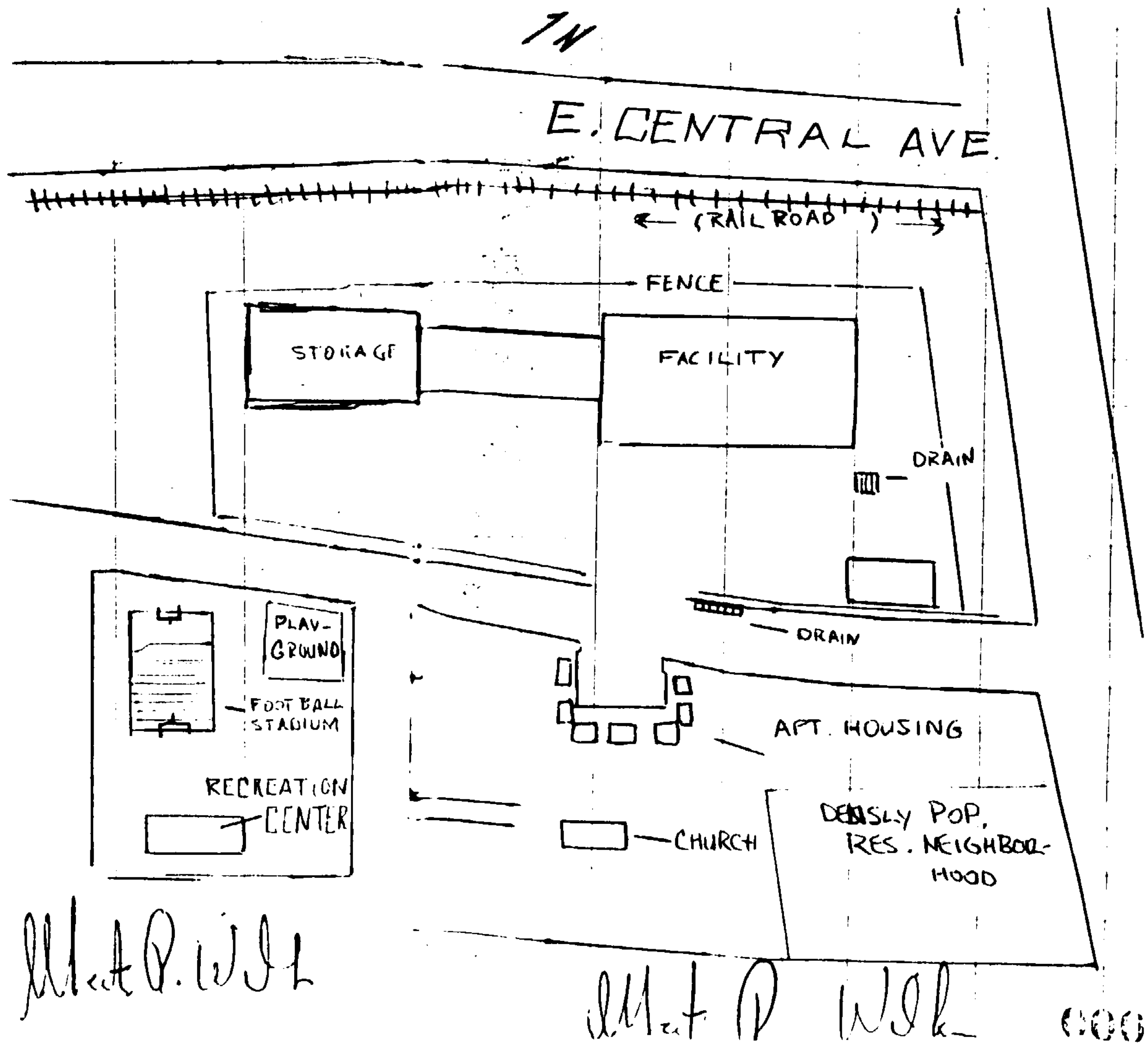
ENTRANCE LOCATED ON R.N. MARTIN ST.
FACILITY IS FENCED IN ALTHOUGH THERE IS
NO LOCK ON ENTRANCE GATE.

LOCATED 1 FLOW DRAINAGE ON PROPERTY
AND 1 LOCATED AT FRONT ENTRANCE
ON R.N. MARTIN ST.

WATER DRAINAGE APPEAR TO FLOW
S.W. INTO BOTH DRAINS.

WORKERS ON SITE.

000006



N
E. CENTRAL AVE
(RAIL ROAD)
FENCE
STORAGE
FACILITY
DRAIN
DRAIN
PLAY-GROUND
FOOT BALL STADIUM
RECREATION CENTER
APT. HOUSING
CHURCH
DENSLY POP. RES. NEIGHBOR-HOOD

000008

CLOSEST RESIDENT APPOX. 50 Ft.
" PLAYGROUND " 300 Ft
" DAYCARE " 1.4 MILE

NO APPARENT A.E.M. STACKS.

000009

NUS CORPORATION AND SUBSIDIARIES **REFERENCE 4** *TELECON NOTE*

CONTROL NO. F4-8905-92	**DATE:** 10-16-89	**TIME:** 1604

DISTRIBUTION:

File
Atlanta Utility Works

BETWEEN: Thomas G. Moore	**OF:** Atlanta Utility Works	**PHONE:** (404) 761-2104

AND: Martin Wilkerson, NUS Corporation

DISCUSSION:

In telephone conversation with Thomas Moore, he indicated that he is the current owner of Atlanta Utility Works, inheriting the business from his father.

He indicated that sometime between the years of 1972 and 1975 that he permitted Allied Chemical Company, located next door to his facility, to dispose of a sandblasting residue in an un-utilized 1-arce portion of his property. He stated that officials from Allied Chemical Company indicated that the waste was silica, an alum extract.

He also stated that the facility and property has been in operation at the present location for 91 years operating as a small machinery manufacturing facility.

I asked him of any disposal permits he may have. He stated that A. U. W. has never had any type of waste that required any permit and that if the buried silica had needed a permit to be disposed of that Allied Chemical Company had told him that he did not need a permit to dispose of silica.

Ground Water of the Piedmont and Blue Ridge Provinces in the Southeastern States

By H. E. LeGrand

GEOLOGICAL SURVEY CIRCULAR 538

Washington 1967

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Ground Water of the Piedmon' ınd Blue Ridge Provinces in the Southeastern States

By H. E. LeGrand

INTRODUCTION

This circular summarizes the underground water conditions in the Piedmont and Blue Ridge provinces of the Southeastern States—the region shown on the geologic map (fig. 1).

There are several ways of developing water from the ground in this region. In earlier days springs were used because they are common in coves or on lowland slopes. Almost all springs in the region yield between ½ to 3 gallons per minute and rarely show a significant decline in yield during dry weather. Dug wells were common in the past, but they are being replaced by bored and drilled wells. Bored wells, like dug wells, are as much as 2 feet in diameter and are commonly lined with concrete or terra cotta pipe; these wells do not extend into hard rock and go dry if the water table falls below the bottom of the well. Drilled wells, which are now the most common source of ground-water supply and which are the chief concern of this report, are cased to the hard rock and extend as open holes into the rock. Although some drilled wells are as small as 3 inches in diameter and others are as large as 10 inches, the most common size is about 5 or 6 inches. Almost every well in recent years has been properly constructed to prevent water on the ground from running down the outside of the casing into the well.

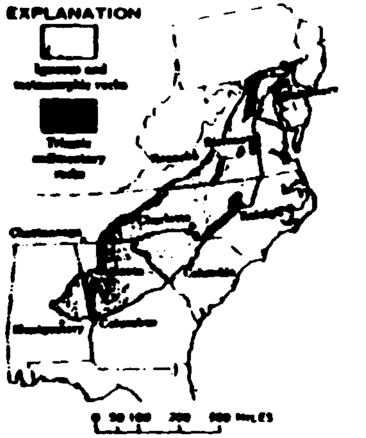


Figure 1.—Generalized geologic map. Areas underlain by igneous and metamorphic rocks are better suited to numerical rating of well sites than areas underlain by Triassic sedimentary rocks.

EVALUATING SITES

A special attempt is made to help those who are interested in the yields of wells. Because yields of individual wells in the region vary greatly within distances as short as 100 feet, estimates of potential yields of prospective wells are difficult to make. This fact has led frequently to water shortages, excessive costs, inconveniences, or undue anxiety in many cases. As the yield of a well is unpredictable, the next best approach is to attempt to show, on a percentage basis, the chance for a certain yield from a well for different conditions.

Although many factors determine the yield of a well, two ground conditions, when used together, serve as a good index for rating a well site. These conditions are topography and soil thickness. The ratings are based on the following statement: High-yielding wells are common where thick residual soils and relatively low topographic areas are combined, and low-yielding wells are common where thin soils and hilltops are combined. By comparing conditions of a site according to the topographic and soil conditions one gets a relative

rating value. For example, the following topographic conditions are assigned point values:

Points	Topography
0	Steep ridge top
2	Upland steep slope
4	Pronounced rounded upland
5	Midpoint ridge slope
7	Gentle upland slope
8	Broad flat upland
9	Lower part of upland slope
10	Valley bottom or flood plain
18	Draw in narrow catchment area
20	Draw in large catchment area

Figure 2 shows values for certain topographic conditions. Figure 3 shows rating values for soil thickness. The soil zone in this report includes the normal soils and also the relatively soft or weathered rock. The topographic conditions and soil conditions are separately rated, and the points for each are added to get the total points which may be used in table 1 to rate a site.

Using two well sites, A and B, as examples, we can evaluate each as to the potential yield of a well. Site A, a pronounced rounded upland (4-point rating for topography in fig. 2) having a relatively thin soil (6-point rating for soil characteristic in fig. 3), has a total of 10 points. In table 1 the average yield for site A is 6 gpm (gallons per minute). This site has a 65-percent chance of yielding 3 gpm and a 40-percent chance of yielding 10 gpm. Site B, a

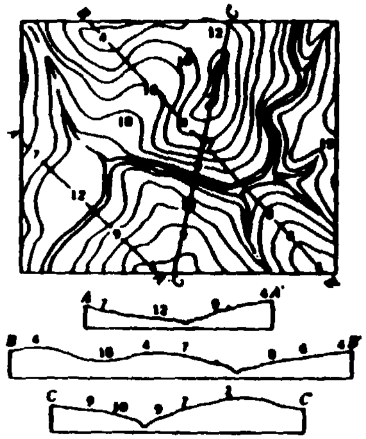
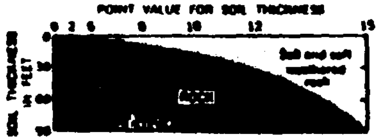


Figure 2.—Topographic map and profiles of ground surface showing rating in points for various topographic positions.



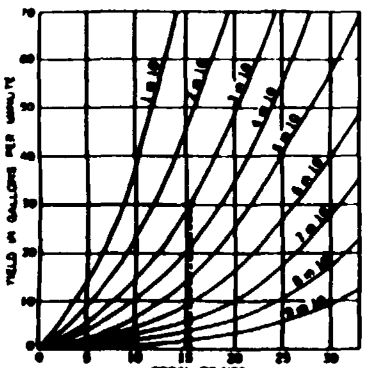
POINT VALUE	CHARACTER OF SOIL AND ROCK
0-2	Bare rock—almost no soil
2-6	Very thin soil—some rock outcrops
6-9	Soil thin—a few rock outcrops
9-12	Moderately thick soil—no fresh outcrops
12-15	Thick soil—no rock outcrops

Figure 3.—Rating in points for various conditions of soil thickness.

Table 1.—Use of numerical rating of well site to estimate the percent chance of success of a well

[Data are based on maximum depth of 300 feet or maximum drawdown of water level of about 200 feet. No interference from pumping is assumed. Numerical rating is obtained by adding rating in points for topography and soil thickness]

Total points of a site	Average yield (gpm)	Chance of success, in percent, for a well to yield at least— 3 gpm	10 gpm	25 gpm	50 gpm	75 gpm
5	2	40	18	6	2	------
6	3	50	20	7	3	------
7	3	55	25	8	3	------
8	4	55	30	11	3	------
9	5	60	35	12	4	------
10	6	65	40	15	5	------
11	7	70	43	18	7	------
12	9	73	48	22	10	------
13	11	77	50	28	12	------
14	12	80	52	30	14	------
15	14	83	54	33	16	------
16	16	85	57	38	18	------
17	17	86	60	40	20	12
18	20	87	63	45	24	15
19	23	88	66	50	25	18
20	26	89	70	52	27	20
21	28	90	72	54	30	22
22	31	91	74	56	35	24
23	34	92	76	58	38	26
24	37	92	78	60	40	29
25	39	93	80	62	43	32
26	41	93	81	64	46	36
27	43	94	82	66	48	40
28	45	95	83	68	50	42
29	48	95	84	71	53	44
30	50	96	87	73	56	47
30+	50	97	91	75	60	50



Example: A site with 16 points has 3 chances in 10 of yielding at least 30 gallons per minute and 6 chances in 10 of yielding 10 gallons per minute.

Figure 4.—Probability of getting a certain yield from a well at different sites having various total-point ratings.

draw or slight sag in topography (18-point rating) having a moderately thick soil (12-point rating), has a total of 30 points, an average yield of 50 gpm, and a 73-percent chance of yielding 25 gpm. Referring to figure 4, we see that the 10-point site has less than 1 chance in 10 of yielding 40 gpm whereas the 30-point site has better than an even chance of yielding 40 gpm.

Some topographic conditions of the region and a few topographic ratings are shown in figure 5. Wells located on concave slopes are commonly more productive than wells on convex slopes or straight slopes. Broad but slight concave slopes near saddles in gently rolling upland areas are especially good sites for potentially high-yielding wells. On the other hand, steep V-shaped valleys of the gully type may not be especially good sites, and they should be avoided if surface drainage near the well is so poor that contamination is possible.

More difficulty is likely to occur in rating character of soil and rock than in rating

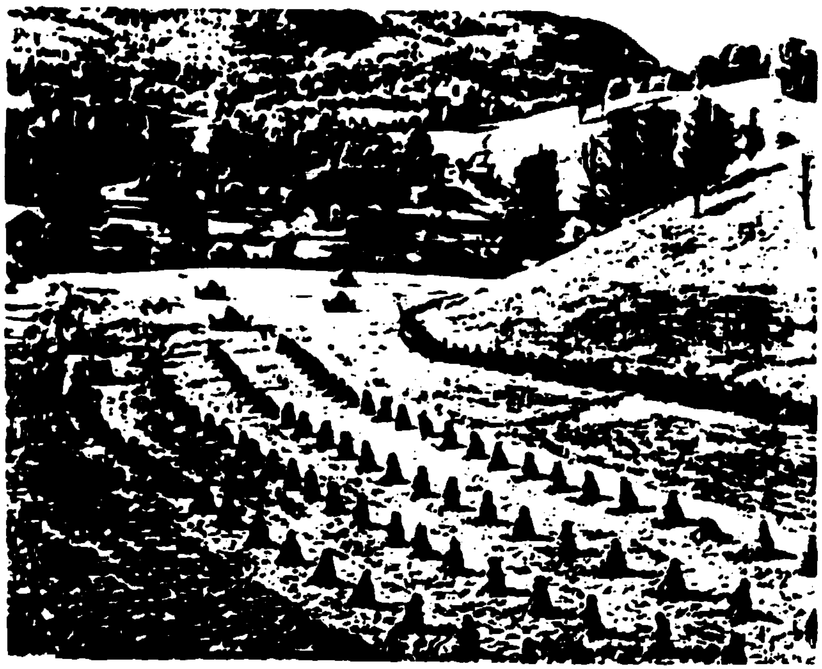


Figure 5.—Countryside in the Blue Ridge province showing approximate ratings for topography.

Figure 6.—The soil cover is likely very thin over these rock outcrops (soil-thickness rating 0 to 4 points).

topography. Everyone should be able to determine by observation if the soil is thin (less than 7 soil and rock points as shown in figure 6) and if the soil is fairly thick (more than 10 soil and rock points), but the intermediate ratings are difficult to make. If the observer is unsure of the soil and rock rating above the 6-point (thin soil) value he may choose a 10-point value for the site with assurance that he is fairly correct. White quartz or flint, which occurs as veins and as rock fragments on the ground, is not considered a true rock in this report because it persists in the soil zone; a quartz vein in many cases is considered to be a slightly favorable indication of a good well site.

The numerical rating system is not intended to be precise. One person may rate a particular site at 15 points, whereas another person may rate it at 17 points; such a small difference in rating would not be misleading. Almost everyone's rating will be within 5 points of an average rating for a site.

YIELD

The term "yield" is not definite but is the reported capacity of a well to produce water, generally during a short pumping test. The water level in a well will stabilize if a certain limited yield or withdrawal of water is maintained; however, a greater withdrawal or yield will cause the water level to fall. In many cases the water level continues to fall until the pumping stops so that continuous pumping would result in a smaller yield than that estimated earlier. The percentage of relative yield is not directly proportionate to the percentage of drawdown of the water level, but the greater percentage of yield is reached before the greater percentage of drawdown. Figure 7 shows an approximate relation of drawdown to yield for an average well in the region. Note that the yield-drawdown relationships of all wells lie within the shaded zone and that average conditions occur on or near the heavy line. As an example of the relation between yield and drawdown, we may consider a well 230 feet deep having a static water level of 30 feet below land surface. (See fig. 8.) This well yields 40 gpm with a pumping level at a depth of nearly 230 feet; the pump might better be set at 130 feet (50 percent of drawdown or half the thickness of the water) where about 36 gpm or 90 percent of the relative yield could be realized. It is unnecessary and uneconomical to lower the water level of a well to a position near the bottom unless the yield is so poor that the water stored in the well is needed.

There is no simple definition of the yield of a well—especially in the Blue Ridge and Piedmont provinces. Yields for various levels of the water in the pumped well are rarely known. The yields in this report are considered to be standard for wells about 300 feet deep which are pumped about 12 hours each day and in which drawdown of the water level is about 200 feet; it is assumed that there is no interference by pumping from other wells, which would increase drawdown.

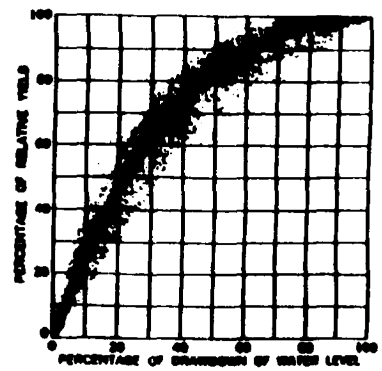


Figure 7.—The curve shows that an increase in yield of a well is not directly proportionate to an increase in drawdown of the water level. A yield of nearly 80 percent of the total capacity of a well results from lowering the water level only 40 percent of the available drawdown.

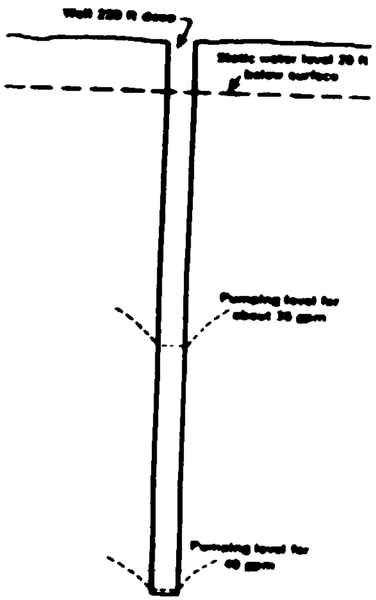


Figure 8.—Yield of a well at two different pumping rates.

DEPTH OF WELLS

How deep should a well be drilled? This question is not easy to answer for an individual well. In most places fractures in the rock get smaller and fewer with depth and deep drilling may not be economical. Figure 9 shows the percentage of total yield for certain depths in an average well.

The following table shows the percentage of wells that reach their maximum yields at certain depths below which drilling is useless. As

Depth (feet)	Percentage of wells
50	[illegible]
100	30
150	50
200	70
250	80
300	93

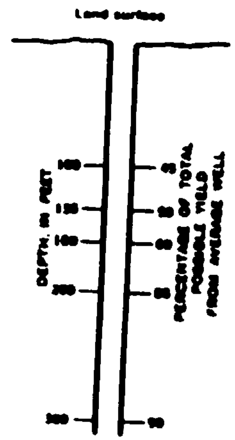


Figure 9.—Zones in which deepening of average well increases the yield.

most of the interconnecting fractures occur in a zone no deeper than 150 feet below the land surface, it may be wise to drill no deeper than 150 feet if the yield is very poor, or no deeper than 300 feet in almost all cases.

FRACTURES IN THE ROCK

Figure 10 illustrates six different fracture patterns in rocks penetrated by wells. To simplify the illustrations the water table and soil thickness are considered uniform, and each well, cased to 50 feet, is 250 feet deep. The approximate number of times each general pattern of fractures occurs in 100 wells is shown in percentage beneath each type. Well A penetrates no fractures below the casing; therefore, the well yields no water. Well B penetrates a fracture zone in which two or more fractures occur a few feet below the casing. This type of well is common. It may yield as much as 10 to 20 gpm for a period of several minutes until the fractures are drained. Then its yield will likely decline suddenly, and the amount of decline will depend upon the amount of water transmitted to the well by the soil and the underlying thin zone of fractured rock. That part of the well below the fracture zone contributes no water and acts only as a storage reservoir into which water drains. The yield of this well does not increase with increased drawdown. Well C penetrates only one fracture, a large one near the

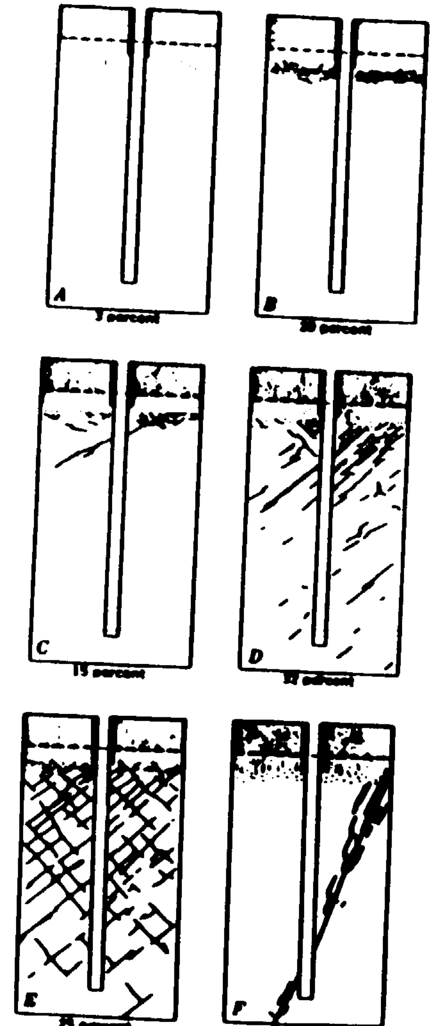


Figure 10.—Six types of ground conditions showing distribution of fractures that influence the yields of wells. The stippled pattern represents soil and soft rock; the dashed line is the water table. The degree of frequency of the different types is shown in percentage.

top of the fresh rock. This well is similar to well B. It may yield considerable water for a few minutes until the stored water in the fracture is drained. The perennial yield, under continuous pumping, will depend on the permeability of the soil and weathered rock and on the amount of water that is released to the fracture. Well D penetrates several fractures, which contribute small amounts of water, and a large fracture at a depth of about 90 feet. Well E penetrates several small- to medium-sized fractures. These fractures are larger and more closely spaced in the upper part of the bedrock. Well F penetrates only one fracture—a large one below a depth of 200 feet.

WATER TABLE

The water table, or upper surface of the underground reservoir, continuously fluctuates and reflects changes in underground storage. During droughts we see evidence of a falling water table when many shallow wells go dry. We also can detect a lowering of the water table locally around wells from which water is pumped. There is a continual discharge of ground water by seepage into streams, by evaporation, and by transpiration through vegetation. The discharge causes a gradual lowering of the water table except for periods during and immediately after significant precipitation when recharge to the underground reservoir exceeds the discharge from it and the water table rises. Figure 11 shows the trends of water-level fluctuation in a well at Chapel Hill, N. C. The water level in this well is controlled entirely by natural conditions, and its fluctuation is typical of that in the region. There is a characteristic seasonal change in the water table, which begins to decline in April or May owing to the increasing amount of evaporation and transpiration of plants. In November or December, when much of the vegetation has become dormant, the precipitation first makes up the summertime soil-moisture deficiency and then again becomes effective in producing recharge, and the water table begins to rise. In a year of normal rainfall the recharge to the underground reservoir is approximately equal to the discharge from it, so that the water table

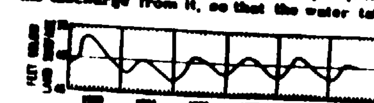


Figure 11.—The water table generally declines in summer and fall but rises to a high level in early spring, as shown by the record of this well in Chapel Hill, N. C.

Table 2.—Concentrations of chemical constituents and their characteristic effects on water use in the region

[Concentration in parts per million except as indicated. Occurrence, where noted, is given in parenthesis after concentrations]

Constituents	Concentration	Characteristic effects on water use
Silica (SiO_2)	Rarely less than 15 or more than 45, commonly 20 to 35.	Forms hard scale in pipes and boilers but not normally a serious problem in the region.
Iron (Fe)	Commonly less than 0.3 in natural water, but corrosion of iron pipes from water with pH less than 6.0 causes a fairly common iron problem.	More than 0.3 ppm stains laundry, utensils, and fixtures reddish brown.
Calcium (Ca) and magnesium (Mg)	Rarely less than 5 or more than 60 (commonly 5 to 20 in water beneath light-colored soils and 15 to 30 in water beneath dark-colored soils).	Cause most of the hardness and scale-forming properties of water. (See hardness below.)
Bicarbonate (HCO_3)	Rarely less than 15 or more than 150, commonly 30 to 100.	Concentrations in region are not generally high enough to cause trouble.
Sulfate (SO_4)	Rarely less than 1 or more than 100, commonly 1 to 40.	Concentrations in region are not generally high enough to cause trouble.
Chloride (Cl)	Rarely less than 1 or more than 40, commonly 1 to 20.	Salty taste to water having more than a few hundred parts per million.
Fluoride (F)	Rarely more than 1, commonly 0.0 to 0.6.	Concentration between 0.6 and 1.7 ppm in water retards decay of teeth, but amounts in excess of 1.5 ppm may cause mottled enamel of teeth.
Nitrate (NO_3)	Rarely more than 20, commonly less than 10.	Where concentration is greater than 20 ppm, contamination from sewage may be suspected. Water of concentrations greater than 45 ppm may be harmful to babies.
Dissolved solids	Total of all mineral matter rarely exceeds 250, commonly 70 to 130.	Water containing more than 1,000 ppm of dissolved solids is unsuitable for most purposes.
Hardness as equivalent $CaCO_3$	Rarely less than 10 or more than 120 (commonly 10 to 30 in water beneath light-colored soils and 40 to 200 in water beneath dark-colored soils).	Causes consumption of soap before lather will form. Hard water forms scale in boilers and hot water heaters. Water whose hardness is less than 60 ppm is considered soft; 61 to 120 ppm, moderately hard; 121 to 180 ppm, hard; more than 180 ppm, very hard.
pH	Rarely less than pH of 5.5 or more than 7.5 (commonly 5.5 to 6.0 in water beneath light-colored soils and 6.0 to 7.5 in water beneath dark-colored soils).	Values less than 7.0 indicate acidity, and corrosiveness of water generally increases with decreasing pH.

at the end of the year is at about the same level as at the beginning of the year. Wells drilled into rock may, when pumped at full capacity, yield slightly less during the driest part of the year when the water table is low. Yet there appears to be no evidence to support the general belief that the water table has been declining during recent years.

CHEMICAL QUALITY OF THE WATER

In comparison with ground water in widely scattered regions of the world, the water in the Piedmont and Blue Ridge provinces ranks among the best in chemical quality. (See table 2.) Most of the water is low in total dissolved solids and is generally soft, but some is moderately hard.

Iron in water is the most common complaint. As little as 0.4 ppm (parts per million) will cause a red stain on plumbing fixtures. About 5 of every 10 wells yield water with less than 0.3 ppm of iron. About 4 of 10 wells yield water with just enough iron to cause a slight stain, and about 1 of 10 wells yields water that has considerable iron. Some iron problems result when iron is dissolved from rocks, and other problems result when water, moving through iron pipes, consequently picks up a brown iron stain by corrosion. It is important to determine the source of the iron, whether dissolved from the rocks or from the pipes, before methods for its removal are employed. Most of the water is satisfactory for use without any type of treatment (table 2). Yet an analysis of the water should be made as soon as a well is drilled to determine if treatment is necessary. It is not possible to determine the quality of water before a well is drilled.

CONTAMINATION OF GROUND WATER

In view of the many hundreds of thousands of wells that are interspersed with about an equal number of septic tanks and other waste sites, it is proper to give serious attention to the possibility of contaminating an individual water supply. The tendency for ground water—and contaminants that might be in it—to move naturally from upland areas toward stream valleys offers help in planning wells and waste sites to avoid contamination. A well that is pumped may modify the natural movement of water and draw contaminated water toward it; this condition is more likely where the soil is thin or absent than where it is thick. Care should be taken to see that no water from the land surface can seep easily into the well around the casing. Not only is the well site important but so is the waste site. In most cases the chances of contaminated water from a waste site moving into a well are not easy to predict, but a few general statements can be made. For example, at a waste site (1) a deep water table is safer than a shallow water table, (2) thick soil is safer than thin soil or rock outcrops, (3) sandy soil with some clay may be better than a clean sandy soil or a sticky clay soil, and (4) a slope of both the land surface and the water table away from a well is better than one toward it.

The soil and weathered rock are generally effective in preventing waste materials from passing through to underlying rock fractures, but the combination of (1) certain types of wastes, (2) excessive quantities of disposed wastes, and (3) thin soils may result in contaminated water reaching bedrock fractures. Once in the bedrock fractures the contaminated water may move easily to water supplies. Only a small percentage of wells have been contaminated, but proper care in locating and constructing wells and waste sites must be taken to minimize the risk of contamination. Minimum standards specified by health officials, such as those relating to permeability of the soil, distance between a well and a waste site, and depth of the water table, must be followed.

GENERAL STATEMENTS ABOUT GROUND WATER IN THE REGION

1. *Ground water may be considered as occurring in an underground reservoir*, the water being held in the open spaces of the rock materials. The water table, representing the top of the reservoir, generally lies in the clay, or disintegrated rock materials. In the lower part of the reservoir, water occurs in interconnecting fractures in bedrock; the fractures diminish in number and size with increasing depth. Water enters the fractures by seeping through the overlying clay, and drilled wells draw water from these fractures. The source of this water is precipitation in the general area of a well and not in some remote place.

2. A layer of residual soil and weathered rock lies on the fresh rock in most places; the thickness of the soil and weathered rock ranges from zero to slightly more than 150 feet.

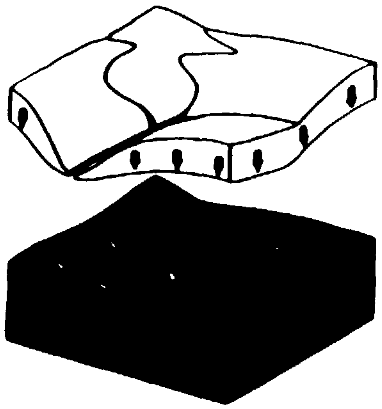


Figure 12.—Dry area (above water table) lifted up to show water table as surface of saturated zone. Movement of water (arrows) tends to be downward in the dry area and lateral toward streams in the saturated zone.

3. The water table has a hill and valley relation that approximately conforms with surface topography, although the water table is somewhat flatter. (See fig. 12.) For example, a creek or river is the surface expression of the water table in a valley, but beneath a hill the water table may be 30 to 70 feet below the ground surface. Ground water, like surface water, has the tendency to drain away from the hills to the valleys. This tendency helps in planning the location of wells in relation to other wells and to sources of possible contamination.

4. A close network of streams prevails, and in most places on an upland area a perennial stream is less than 1 mile away.

5. Toward the streams is a continuous flow of ground water. Some of the outflowing ground water is used up by evaporation and by transpiration of plants in the valley areas; the remainder of the water discharges as small springs and as bank and channel seepage into the streams.

6. The natural movement of ground water is relatively short and is almost everywhere restricted to the zone underlying the gross topographic slope extending from a particular land-surface divide to the adjacent streams.

7. In ideal cases the pumping of a well causes the water table to be depressed smoothly in the shape of an inverted cone, the apex of the cone being in the well; however, the erratic distribution of rock fractures and the contrasting nature of permeability between rock fractures and overlying soils cause the depressed part of the water table to extend unevenly around a well. Where two heavily pumped wells are within a few hundred feet of each other, there is a strong likelihood of some interference of pumping level between the two, but in most cases there is not any appreciable interference between low-yielding wells a few hundred feet apart. From a pumped well the depressed part of the water table rarely extends beneath a perennial stream or beneath a hilltop to a slope on the opposite side. Well interference is local, and there is no regional lowering of the water table because of pumping.

8. The relation of the depth of a well to yield of the aquifer is not simple. In spite of some beliefs, water already available to a well is rarely lost by drilling deeper; therefore, there is always a chance of getting a larger supply by increasing the depth of the well. Yet this chance becomes poorer as the well deepens because the interconnecting fractures and the ability of the rocks to store and transmit water decrease significantly with depth. More than 90 percent of all ground water occurs in the first 100 feet below the water table. Generally two wells 300 feet deep each will yield more water than one well 600 feet deep.

9. The relationship of topography to yield is emphasized. The great majority of wells are located on hills or smooth upland slopes because of convenience and because these locations appear safe from sources of contamination. Yet the percentage of low-yielding wells is much greater on hills and upland convex slopes than in lowlands or draws (concave slopes that lead upward from a valley to a saddle or sway-backed position in a ridge). Steep-sided depressions, such as gullies and ravines, should not be considered acceptable sites for wells.

10. In general, wells are more productive and tend to have a more stable year-round yield where there is a thick mantle of soil than where bare rock crops out. The presence of a soil cover and the absence of rock outcrop

suggest that water moves downward into the rock and is not readily shunted toward the adjacent valley; in fact, the soil cover suggests that interconnecting rock fractures are available to store water and to transmit it to wells. Where there is a good soil cover, the water table generally lies in it; therefore, the storage capacity in the vicinity is much greater than where bare rock is exposed and where the only water in storage is in the rock fractures that might be quickly drained.

11. Simple clear-cut statements about the water-yielding properties of the various types of rocks are not easy to make. There are many varieties of igneous and metamorphic rocks, but for a discussion of their ground-water properties they may be grouped as follows: (1) Somewhat massive igneous rocks, such as granite, and (2) metamorphic rocks, such as schists, gneisses, and slates, which may show an alinement of minerals or an alinement of cleavage planes or openings along which water may move. In some places a type of rock may have distinctive water-bearing characteristics, but, if so, it is also likely to show distinctive topographic and soil-mantle features. Topography and soil-mantle features are readily observed and may be used as criteria for predicting the water-yielding potential of a well site, whereas the water-bearing characteristics of a type of rock by itself may be obscure. At any rate, there are too many complex factors involved to justify generalizations about the yield of wells in individual types of rock.

12. Whenever water is pumped from a well, the water level is lowered in and around the well. The drawdown increases with an increase in the rate of pumping, although this relation is not simple. For example, a well yielding 20 gpm with a drawdown of 50 feet will not double the yield by increasing the drawdown to 100 feet. Instead, it will yield less than 40 gpm and perhaps no more than 25 to 30 gpm with a drawdown of 100 feet.

13. Some wells that are pumped heavily tend to decline gradually in yield. This fact may be due to the following circumstances. The size and setting of a pump are determined from a short bailer or pumping test when the well is completed. Such a short test may not indicate the long-term yield of the well because the first water is withdrawn form storage in the rock materials, and many hours, days, or even months may pass before there is a stable adjustment between the amount of water that the fractures can feed into the well and the amount of water available to drain through the overlying clay into the fractures feeding the well. Failure to have knowledge of water-level fluctuations as a result of pumping is the cause of many well problems and of the erroneous conclusion that well supplies are not dependable. If a well tends to have an unstable yield, it is probably overpumped. A reduction in the rate of pumping and consequently a raising of the water level will result in a perennially safe yield. Constant pumping at a moderate rate does not damage a well.

14. There is a tendency for rocks underlying a light-colored soil to yield water that is low in dissolved mineral matter and is soft. On the other hand, rocks underlying darker soils (dark red, brown, and yellow) tend to yield water that is slightly hard, or hard, and that may contain objectionable amounts of iron.

15. Many people think that a shallow depth to the water table is an indication of a good yield of a potential well, but this is not a rule to follow. In fact, where the water table is only a few feet beneath the land surface on an upland area, the rock fractures may be so scarce that water may not be able to move downward in the rock; it is held near the ground surface and perhaps is shunted out to the land surface as a wet seepage spot on a steep slope.

16. There are many mistaken notions about the availability of ground water in the region. These notions arise from lack of knowledge of the occurrence and movement of ground water and of the behavior of wells. The common erroneous statement that a certain town in the region could not depend on well water stems from the existence of a limited number of wells; never has the underground reservoir beneath any town or city in the region been completely depleted of its water. There has been a tendency for towns of about 3,000 people to convert from well supplies to a treated surface-water supply; such conversion commonly occurs when the town requires more than 500,000 gallons of water per day, an amount which only a few wells in aggregate may not produce. Few towns have the experienced persons with diversified knowledge of wells and ground-water conditions to provide the good management comparable to that of municipal surface-water supplies.

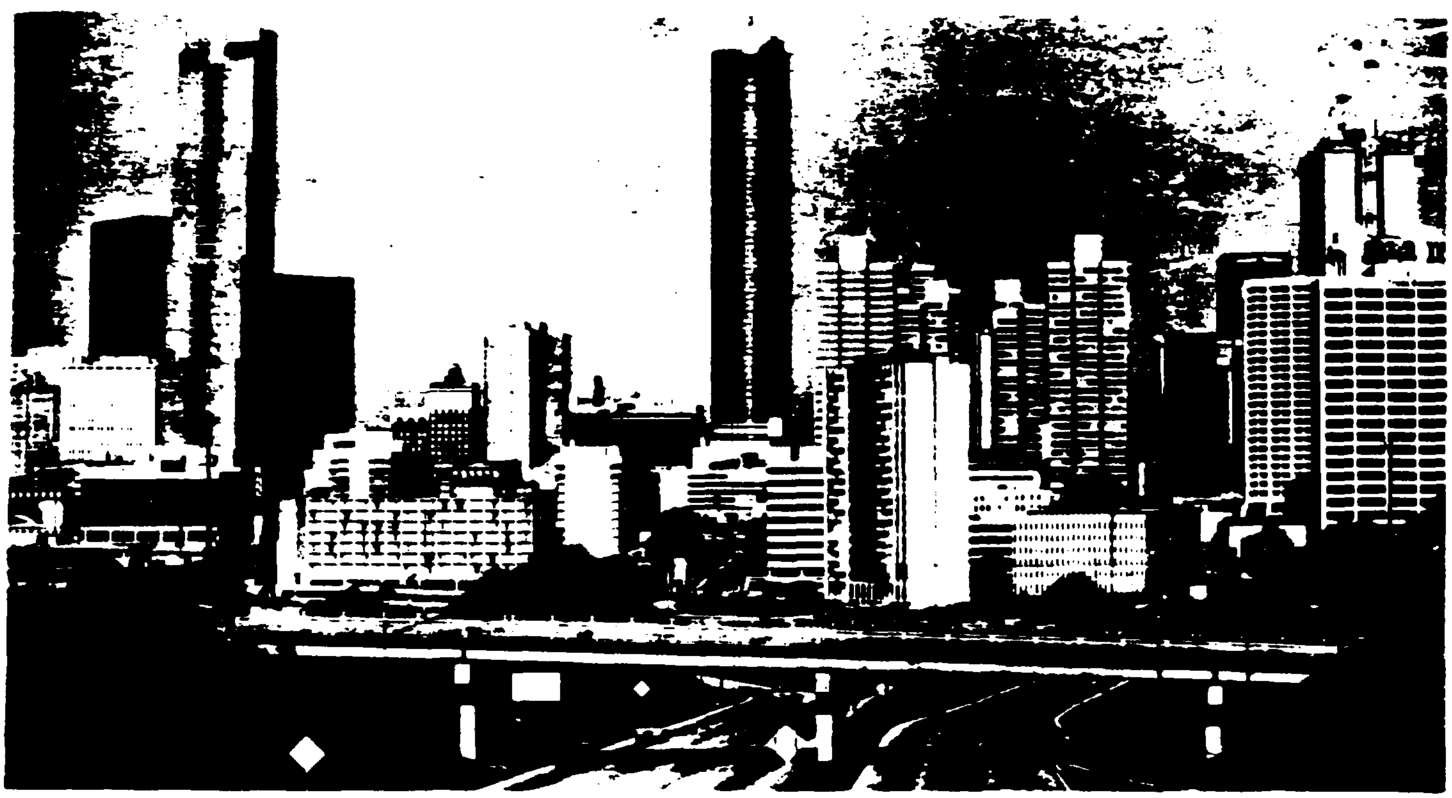
SOURCES OF INFORMATION

There are many sources of information about ground-water conditions in specific parts of the region. At least one agency in each State has cooperated financially with the U.S. Geological Survey, and these agencies have contributed in some way to the results of this report. Further information about reports published or work in progress may be obtained from the district offices of the Geological Survey in each State or from the respective State cooperating agencies.

REFERENCE 6

GEOLOGY OF THE GREATER ATLANTA REGION

Keith I. McConnell and Charlotte E. Abrams



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Georgia Geologic Survey
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Atlanta
1984

BULLETIN 96

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ABSTRACT

The oldest rocks present in the Greater Atlanta Region (i.e., Corbin Gneiss Complex) are exposed in the crest of the Salem Church anticlinorium, a major northeast trending fold in the Blue Ridge portion of the study area. Nonconformably overlying these 1 b.y.-old Grenville gneisses are metasedimentary rocks of the Pinelog and Wilhite Formations. These two formations are interpreted as lithostratigraphic equivalents of units within the late Precambrian Snowbird and Walden Creek Groups of the Ocoee Supergroup. Stratigraphically above the Wilhite Formation is a metamorphosed clastic sequence that is interpreted as a lithostratigraphic equivalent of the Great Smoky Group as defined to the northeast of the study area. Rocks of the Murphy belt group are exposed in the Murphy synclinorium conformably above the Great Smoky Group. The Murphy belt group is composed predominantly of a metamorphosed succession of clastic rocks and also includes the Murphy Marble. The Murphy belt group does not extend southwest of the Murphy synclinorium east of Cartersville; however, rocks of the Great Smoky Group trend around the reentrant in the Cartersville fault into what is referred to as the Talladega belt. Units of the Talladega belt in this area are at least partially equivalent to the Ocoee Supergroup and therefore are late Precambrian in age.

Lithologic units of the Blue Ridge are separated from the rocks of the northern Piedmont by the Allatoona fault. The northern Piedmont can be divided into two major lithologic units, New Georgia and Sandy Springs Groups. The New Georgia Group is interpreted to contain the oldest units in this portion of the northern Piedmont and is characterized by a metamorphosed sequence of predominantly felsic and mafic volcanic and plutonic lithologies. The Sandy Springs Group is interpreted to conformably overlie the New Georgia Group and is composed dominantly of interlayered metavolcanic and metasedimentary rocks with a decreasing metavolcanic component upward in the stratigraphic sequence. Eastern and western belts of the Sandy Springs Group are separated by the Chattahoochee fault, a major tectonic boundary in the northern Piedmont.

Northern Piedmont rocks are separated from similar lithologies and stratigraphic sequences in the southern Piedmont by the Brevard fault zone. In the Greater Atlanta Regional Map area, the Brevard zone is a zone of early ductile and late, brittle shearing that is interpreted to have formed, at least in part, as a result of high strain along the axial zone of a large F_1 isocline. No major vertical displacement is apparent along this segment of the Brevard zone.

South of the Brevard fault zone, units defined as Atlanta Group by previous workers are interpreted in this report to be exposed in a large-scale synformal anticline. The Atlanta Group is characterized by metamorphosed sedimentary and volcanic rocks that have many similarities to lithologies north of the Brevard zone. Possible correlations between the Atlanta Group and the New Georgia and Sandy Springs Groups are presented in this report.

Paleozoic plutonic rocks present within the Greater Atlanta Regional Map area are divided into three major categories based upon chemical composition, depth of intrusion and time of intrusion relative to Paleozoic metamorphism. Earliest (category 1) intrusions were emplaced at shallow levels coincident with volcanism, are concordant to the regional trend, and are characterized by dacitic subvolcanic plutons and volcanics. Category 2 plutons were intruded syntectonically, at an intermediate level in the crust, and are characterized by moderately high concentrations of potassium, nearly concordant contacts with the country rocks and a lack of any association with volcanism. Both category 1 and 2 plutons have a metamorphic overprint. The final category of Paleozoic intrusive rocks present in the study area is dominantly granitic in composition, lacks a metamorphic overprint, is discordant to the regional trend and does not have a volcanic component. Plutons of category 3 are known to occur only south of the Brevard fault zone.

Two major regional progressive metamorphic events and seven deformational events have been recognized in the study area. The earliest deformation and metamorphism recognized occurred during the Grenville orogeny (approximately 1,000 m.y. ago) and is reflected only in basement gneisses of the Blue Ridge. The second metamorphic event is interpreted to have occurred approximately 365 m.y. ago and was associated with a major episode of isoclinal recumbent folding (F_1). Axial planar foliation (S_1) associated with this fold event represents the dominant planar feature in crystalline rocks of the area. Folds related to this deformation have not been recognized within the Valley and Ridge west of the Cartersville fault, partially supporting the existence of the fault east of Cartersville. F_2 folding postdated Paleozoic metamorphism and is responsible for the geometry of outcrop patterns in the Greater Atlanta Region. Subsequent folding events (F_3 and F_4) interfere with earlier fold patterns and complicate outcrop patterns of map units.

Twenty-eight commodities have been mined or prospected within the boundaries of the Greater Atlanta Regional Map. Of these various commodities only barite, ocher, sand, granite (dimension stone and crushed), limestone, structural clays, and marble are still being mined. Areas of exten[illegible] mining and (or) prospecting include the limestone, baux[illegible] shale deposits of Floyd and Polk Counties; barite, oc[illegible] and manganese deposits of the Cartersville district [illegible]genic massive sulfide and gold deposits in the northe[illegible] and crushed and dimension stone from quarrie[illegible] Stone Mountain, Panola, Palmetto, and Ben Hill [illegible] and Lithonia Gneiss south of the Brevard fault zo[illegible] the Austell, Sand Hill, Kennesaw and Dallas gneisse[illegible] of the Brevard zone.

ACKNOWLEDGEMENTS

The Atlanta Regional Map project involved many former and present day members of the Georgia Geologic Survey. Special recognition should go to Samuel M. Pickering, Jr., former State Geologist, who originated the Atlanta Regional Map project and to Joseph B. Murray and David E. Lawton who supervised the initial stages of this investigation. Also, we would like to recognize several former members of the Georgia Survey who, since their departure, have given support and guidance in the various areas that they worked. These include John O. Costello, Falma J. Moye, and Robert E. Dooley. In addition, we sincerely appreciate the support and assistance given to us by representatives of the mineral industry. In particular, the efforts of Randy Slater of Tennessee Chemical Corporation in gaining access to core from western Georgia was particularly helpful. Other members of the mineral industry who have assisted us through discussions and chemical analyses will, at their own request, remain anonymous. Outside technical review of the manuscript was by Robert D. Hatcher, Jr., James F. Tull, and James A. Whitney. Stan D. Bearden reviewed the mineral location map for the Cartersville district. Finally, we would like to express our appreciation to Gilles O. Allard and Robert H. Carpenter for their reviews of the economic geology portion of the Greater Atlanta Regional Map report and for their assistance and guidance in our efforts to understand and promote the ore deposits of west Georgia.

INTRODUCTION

Purpose and Methods

This report presents results of the Greater Atlanta Regional Map project, an effort to develop a comprehensive geologic data base for the rapidly growing Atlanta metropolitan area. The primary objective of the Atlanta Regional Map project was to provide a compilation and synthesis of existing and newly derived geologic information for the Greater Atlanta Regional Map area for use by private industry, the general public, and the geological community. A secondary objective of this project was to compile a single-source listing and map of mines and prospects in the Atlanta area primarily for use by the mineral industry. When aspects of mapping related to the Greater Atlanta Regional Map project generated interest from within the mineral exploration community, the economic part of the project was expanded to include a detailed examination of the origin of base and precious metal deposits in the Atlanta area.

The base used for the above-mentioned compilations is the map of the Greater Atlanta Region. The Atlanta map was the first of a new series of 1:100,000 scale topographic maps produced by the U.S. Geological Survey. Unlike 1:100,000 scale maps that followed it, the Greater Atlanta Regional Map was not in the 1° of longitude format. The Greater Atlanta Regional Map encompasses 1 degree, 30 minutes longitude and 1 degree of latitude and is centered on the city of Atlanta (Fig. 1). Ninety-six 7.5-minute quadrangles are contained within the boundaries of the Greater Atlanta Regional Map (Fig. 1) as are portions of three major geologic provinces (i.e., Valley and Ridge, Blue Ridge, and Piedmont).

To produce a geologic map of an area as large as that contained within the Greater Atlanta Regional Map requires an enormous amount of time and money. For that reason, existing geologic literature was reviewed in an effort to find suitable geologic mapping for compilation. Some information used in compilation of the geologic map of the study area (Plate I) was available as open-file maps at the Georgia Geologic Survey. Geologic information also was available from various hydrologic reports and nearly all of the Valley and Ridge portion of the Greater Atlanta Regional Map was compiled from these hydrologic maps.

At the start of this project much of the Blue Ridge and Piedmont contained within the boundaries of the Greater Atlanta Regional Map lacked adequate geologic mapping. A major task of the Greater Atlanta Region project was to provide mapping for these areas. In a cooperative effort, members of the Georgia Geologic Survey, U.S. Geological Survey and the University System of Georgia performed detailed and reconnaissance geologic mapping on 7.5-minute base maps. Detailed mapping generally was reserved for those areas that were exceedingly complex structurally or were of potential economic significance. Detailed petrographic studies were limited to the formal definition of specific lithologic units. Many of these petrographic studies were included in derivative reports and investigations. Chemical analyses of rocks were restricted to selected units. Most of the analytical work reported in this investigation was performed in laboratories of the Georgia Geologic Survey and U.S. Geological Survey, although some analytical work on potentially economically significant units was provided by several mineral exploration companies.

Any compilation of data from multiple sources requires compromises in the handling of differing interpretations and mapping detail in adjacently mapped areas. Also, all areas could not be mapped to the degree that would provide a complete and solid data base for interpretation. This report contains examples of all of these compromises and constraints. In particular, all areas within the study area were not mapped to the same degree of detail (see Appendix D) and, therefore, some compromises regarding lithostratigraphic contacts were necessary. In addition, controversial areas for which more than one interpretation of the geology existed required a judgement as to which interpretation was to be used on the compilation. Justification for the interpretations used are included within the text of this report.

Belt Terminology

Any author of a regional report on the geology of crystalline rocks in the southeast almost immediately encounters the problems related to the "belt" terminology which is commonly used to define the major rock groupings as long, linear belts. Although there is almost universal dislike for the "belt" terminology, terms such as Blue Ridge, Inner Piedmont, Talladega, etc., have become entrenched in the literature and in the minds of Appalachian geologists. The use of these terms has almost become an obligatory part of any manuscript written on the southern Appalachian orogen. Faced with these entrenched terms, authors of reports on crystalline rocks in the southeast must select one of four alternatives when preparing a manuscript: 1) using the belt classification of either Crickmay (1952) or King (1955); 2) using a pre

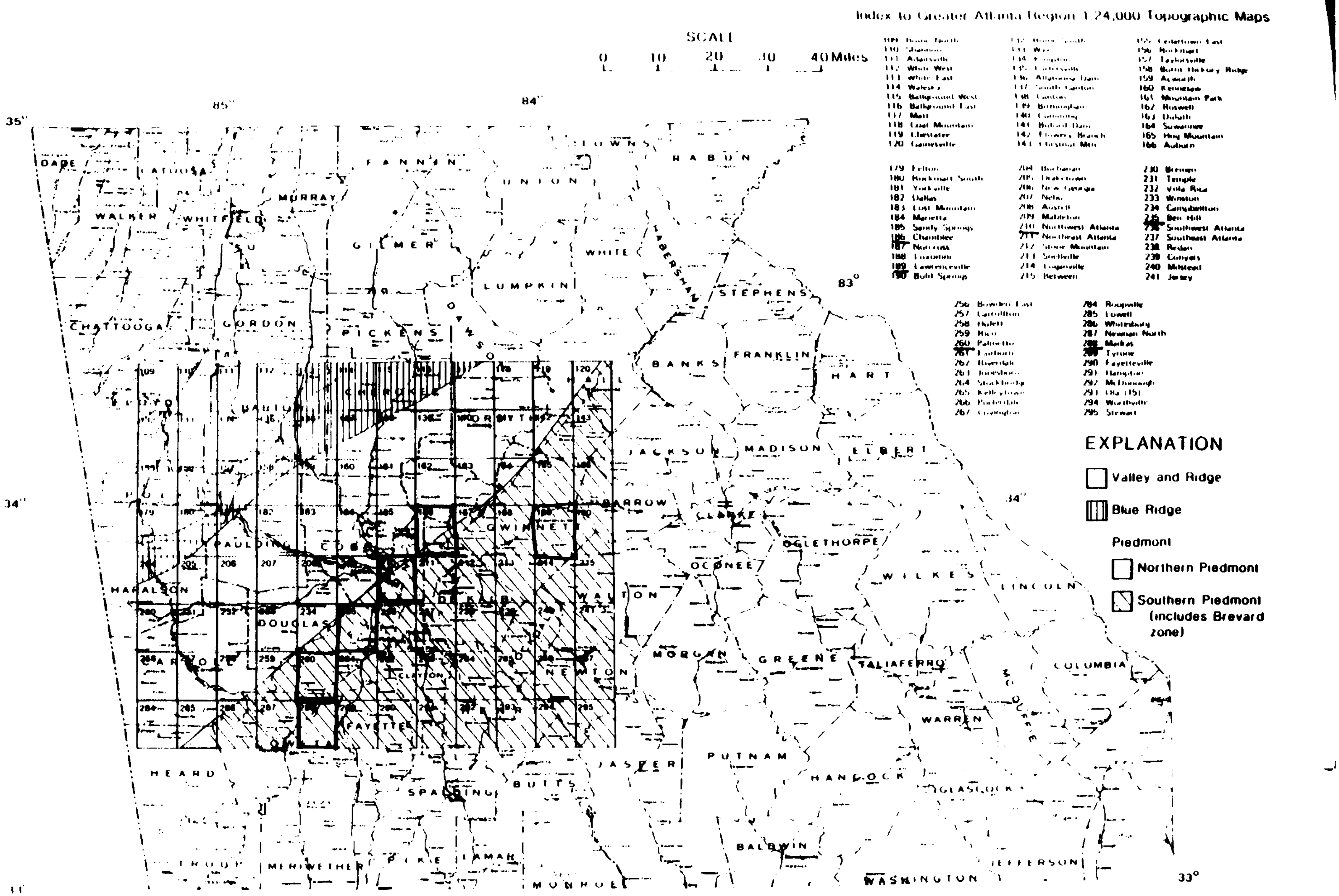


Figure 1. Greater Atlanta Regional Map area with geologic provinces and index to 1:24,000 U.S. Geological Survey topographic quadrangles.

defined modification of these classifications (e.g., Hatcher, 1978a); 3) proposing a new modification of these classifications based upon local considerations; or 4) proposing an entirely new classification. All of the four alternatives listed above have drawbacks, and selection of any one alternative will not meet with universal acceptance. In the report on the Greater Atlanta Region, we have chosen to follow the third alternative and propose a modification of King's (1955) original classification. This modification of King's classification of geologic belts and the reasoning behind it are presented below.

In choosing the third alternative, we have eliminated the other three based on the following considerations. In the 30 years since Crickmay (1952) and King (1955) originally proposed their belt terminology, knowledge of the geology of the crystalline rocks in the southern Appalachians has increased substantially. Detailed mapping has shown that the belts as originally defined are too general, have little relation to physiographic provinces, and have poorly defined boundaries. Because of this, geologists in various parts of the orogen have modified the belt terminology to fit their own particular observations. Thus, Hatcher (1978a) modified King's Blue Ridge by separating it into three subdivisions: an eastern, a central and a western Blue Ridge belt, while Neathery and others (1974, 1975) termed part of what King called Blue Ridge as northern Piedmont. Belt modifications of neither Hatcher nor Neathery are appropriate when applied to major lithologic units of the Greater Atlanta Region. Lithologic units of the study area contain characteristics that lend support to both Hatcher and Neathery's belt modifications, but also do not completely fit either author's modification of King's belts. For the above reason we feel that alternatives 1 and 2 as presented above have more liabilities than good characteristics and therefore have not been used in this report.

The fourth alternative is to propose an entirely new classification based on local considerations. The problem with this alternative is that the terms Piedmont and Blue Ridge have become so entrenched in the literature that it is doubtful that any locally defined terminology proposed would ever reach any significant level of usage or recognition outside of the State of Georgia. An example of this is Crickmay's (1952) terminology which has been largely ignored outside of the state. We, therefore, conclude that the third alternative of proposing a new modification of preexisting terms based on local considerations is the most appropriate.

Rocks of the Atlanta Region in this report are divided into three major geologic provinces (Valley and Ridge, Blue Ridge, and Piedmont) as modified after King (1955). Physiographic terms used for the belt terminology are retained because they are so entrenched in the literature, but it must be emphasized that they have little or no relevance to the physiographic provinces.

In this report the Valley and Ridge geologic province is similar to the Valley and Ridge belt of King (1955). It is composed of the unmetamorphosed to weakly metamorphosed rocks of the foreland fold and thrust belt, but also includes the basal lower Cambrian clastic rocks of the Chilhowee Group (Unaka belt of King, 1955). The southern and eastern boundary of the Valley and Ridge geologic province is the Cartersville fault that separates the relatively unmetamorphosed lower Cambrian lithologies from late Precambrian Ocoee Supergroup lithologies.

The Blue Ridge geologic province as defined in this report bears little resemblance to the Blue Ridge belt as defined by King (1955). King (1955) recognized that the Blue Ridge belt included portions of the Blue Ridge and Piedmont physiographic provinces and generally defined it as comprising the area between the Unaka Mountains on the northwest and the Brevard fault zone to the southeast. King also recognized several less extensive belts in the Blue Ridge, namely the Dahlonega and Murphy belts. Other geologists have been troubled by the broadly defined Blue Ridge belt and have modified it into either several smaller belts (i.e., eastern, central, and western Blue Ridge belts of Hatcher, 1978a) or termed part of King's Blue Ridge belt, northern Piedmont (Neathery and others, 1974, 1975). Hatcher's eastern Blue Ridge belt roughly corresponds with the northern Piedmont as defined in Alabama, with one notable exception: the inclusion of the Talladega belt in the northern Piedmont of Alabama.

In this report on the Greater Atlanta Region we define the Blue Ridge geologic province as covering the area between the Cartersville and Allatoona faults, including rocks of the Talladega and Murphy belts. The Blue Ridge geologic province therefore coincides generally with the rifted continental margin where debris from the continent was deposited (miogeoclinal portion of the orogen).

Rocks lying between the Allatoona fault and Fall Line (Coastal Plain unconformity) are interpreted to lie in the Piedmont geologic province. Since the Brevard represents a prominent feature in this area and separates similar lithologies and stratigraphic sequences, the area north and west of the Brevard fault zone is termed northern Piedmont and that south and east of the Brevard is termed southern Piedmont. The northern Piedmont as defined in this report differs from the northern Piedmont as defined in Alabama in that the former does not include rocks of the Talladega belt. The boundary between Blue Ridge and Piedmont geologic provinces roughly corresponds to the transition from miogeoclinal to eugeoclinal deposition in the Appalachian orogen.

The southern Piedmont as defined in this report would cover the area between the Brevard fault zone and the Coastal Plain overlap. Rocks of the Charlotte and Carolina slate belts are interpreted as subdivisions of the southern Piedmont much as the Talladega and Murphy belts represent subdivisions of the Blue Ridge geologic province.

Previous Works

VALLEY AND RIDGE

As with most of northwest Georgia, earliest re[illegible] the geology of that part of the Greater Atlanta Regional [illegible] area underlain by Valley and Ridge rocks were done by [illegible] Hayes (1891, 1901, 1902). In these early reports, Hayes [illegible] the stratigraphy and structure of a major portion [illegible] and Ridge in Georgia, named and defined the [illegible] and Cartersville faults in this same area (1891, [illegible] the stage for numerous subsequent argume[illegible] position of the Cartersville fault by moving the tr[illegible] from his original interpretation (Hayes, 190[illegible] much of Hayes' work was modified later, the [illegible] tributions of this exceptional pioneer in Georgia [illegible] still remain intact. At about the same time as Hayes wa[illegible] his reports on the Valley and Ridge. Spencer (1893, p. 3) published a compendium on the "scientific, economic, and agricultural standpoints" of the Paleozoic Group in northwest Georgia. More specifically, Spencer (1893) described the geology and mineral resources of Polk, Floyd, Bartow, Gordon, Murray, Whitfield, Catoosa, Chattooga, Walker and Dade Counties.

For a short period of time following Hayes' and Spencer's work, advances in the knowledge of the geology of the Valley and Ridge followed the lines of individual economic mineral studies in a series of bulletins published by members of the Geological Survey of Georgia. Most of these reports covered the occurrence of economic minerals throughout the State with only a portion of the report covering northwest Georgia. Topics covered in these reports include: iron ores in Polk, Bartow and Floyd Counties (McCallie, 1900); bauxite (Watson, 1904); ocher (Watson, 1906); fossil iron ore deposits (McCallie, 1908); limestones and cement materials (Maynard, 1912); slate (Shearer, 1918); and barite (Hull, 1920). In addition, two reports on manganese deposits of Georgia were produced (Watson, 1908; Hull and others, 1919) as well as a second report on iron ore deposits (Haseltine, 1924). Somewhat later, Smith (1931) published on shales and brick clays of Georgia and Furcron (1942) reported on dolomites and magnesium limestones.

In 1948, a revision of Valley and Ridge stratigraphy was published by Butts and Gildersleeve (1948). Much of these data were incorporated previously into the State Geologic Map of 1939 (Cooke and others, 1939). Butts and Gildersleeve (1948) provided some revisions to the 1939 map and included a section on the mineral resources of northwest Georgia. Kesler (1950) subsequently published his detailed report on the geology and mineral resources of the Cartersville area. In this report, Kesler disputed the existence of the Cartersville fault of Hayes (1901) and revised the Paleozoic stratigraphy in the Cartersville area. An important aspect of Kesler's stratigraphic revision is that he limited the Shady Dolomite to the stratigraphic zone containing interbedded hematite and dolomite. This aspect of Paleozoic stratigraphy will be discussed further in following paragraphs.

Croft (1963) produced the first of two reports on the hydrology of Bartow County in which he indicated that much of the Lower Cambrian sequence was overturned. Shortly after the publication of Croft's report, the Geological Society of Georgia made the Cartersville fault problem and associated Paleozoic stratigraphy the subject of a field trip. In the report published for the field trip, Bentley and others (1966) suggested that the Cartersville fault did not exist south of Bolivar and that quartzites unconformably overlying the Corbin gneiss are Weisner Formation (Chilhowee Group).

Cressler (1970) published a report on the hydrology of Floyd and Polk Counties and McLemore and Hurst (1970) reported on the carbonate rocks of the Coosa Valley area. Cressler and others (1979) published the second report on the geohydrology of Bartow County that also included the geohydrology of Cherokee and Forysth Counties, which lie east of the Cartersville fault. Cressler and others (1979) provided mapping in the Cartersville area and, like Butts and Gildersleeve (1948) and Croft (1963), expanded the limits of the Shady Dolomite to include dolomitic limestones that Kesler (1950) had placed in the Rome Formation. Included in the report by Cressler and others (1979) were the results of mapping in southern Bartow County by Crawford (1977a, 1977b). This mapping outlined the trace of the Cartersville fault through southern Bartow County. Much of the information derived by Cressler and Crawford was presented on the Georgia Geological Society field trip in 1977 (Chowns, 1977).

The first detailed study of the stratigraphy and depositional environments of the lowermost Cambrian rocks in northwestern Georgia was carried out by Mack (1980). Mack's work established the internal stratigraphy for the Chilhowee Group just west of the Cartersville fault and related these findings to the better known Chilhowee Group in Tennessee.

Reade and others (1980) published the results of their investigation in the Emerson-Cartersville area. Most mapping done in that investigation took place in the barite pits of the Thompson-Weinman Corporation. In that report, usage of the term "Shady Formation" is restricted to a black dolostone directly above the ledge-forming quartzites of the Weisner Formation, whereas dolostones above this black carbonate are placed in the Rome Formation. Reade and others' (1980) definition of the Lower Cambrian stratigraphy, which is similar to that of Kesler's (1950) stratigraphy, is an indication of the problems involved with stratigraphic and structural interpretation in the Cartersville area.

BLUE RIDGE

In this report, the term Blue Ridge is limited to those rocks present between the Allatoona fault (McConnell and Costello, 1980b) and the Cartersville fault. As with the Valley and Ridge, the earliest work in the Blue Ridge was done by C.W. Hayes. In 1891, Hayes first reported on faulting in the Cartersville area and introduced the term "Cartersville fault." Hayes (1891) mapped the trace of the Cartersville fault directly through the city of Cartersville possibly coincident with what is now referred to as the White fault. In a subsequent publication Hayes (1901) relocated the fault a few miles to the east. Much of Hayes' work in the Blue Ridge remains unpublished. In his unpublished Cartersville folio, Hayes (1895) outlined the stratigraphy and structure of the Blue Ridge just east of the Cartersville fault and pointed out the nonconformity between the Corbin Gneiss and its cover sequence. In addition, Hayes' map implied equivalence between those rocks overlying the Corbin Gneiss Complex and rocks that were later to be termed Talladega belt rocks (Crickmay, 1952). Hayes' early work and relocation of the trace of the Cartersville fault set the stage for an [illegible] controversy over the existence of the fault and the stratigraphy of the sedimentary and crystalline rocks in the Cartersville area. This controversy persists today.

Shortly after Hayes' work, the series of publications by the Geological Survey of Georgia regarding various mineral commodities began. These publications specifically [illegible] Blue Ridge geology include McCallie's (1907) [illegible] marbles of Georgia. Hull's (1920) report on barite [illegible] (1935) report on kyanite and vermiculite, and [illegible] Teague's (1945) report on sillimanite and [illegible] During this same period, Bayley (1928) published [illegible] of the Tate quadrangle and described in detail [illegible] types of Georgia marble. Also, Crickmay (193[illegible]) [illegible] the Talladega Series in the southern Appalachians [illegible] that portion of the Blue Ridge in the Greater Atlanta [illegible]

Map. Crickmay (1936) indicated that the Talladega Series, originally defined in Alabama, extends across western Georgia to near Cartersville and then turns northward toward North Carolina and Tennessee. In that interpretation rocks of the Murphy belt group and parts of the Ocoee Supergroup were considered part of the Talladega series. With the publication of Crickmay's report, the controversy over the Cartersville fault problem began in earnest. In 1950, Kesler indicated that the Cartersville fault did not exist east of Cartersville and that the Corbin Gneiss was a "static emplacement." Rocks overlying the Corbin were included in the Lower Cambrian Valley and Ridge sequence and amphibolites south of the Allatoona fault were considered to be para-amphibolites (i.e., metamorphosed Rome shale) Kesler (1950).

In 1964, Sever published a report on the geology and ground water in Dawson County in the extreme northeastern part of the study area, and Fairley (1965) revised the work of Bayley (1928) in the Tate Quadrangle. Smith and others (1969) published a listing of previous and new isotopic age dates and an isograd map of Georgia which included the Blue Ridge. Shortly before Smith and others' (1969) report, the Cartersville fault problem was addressed at the annual meeting of the Georgia Geological Society (Bentley and others, 1966). Bentley and others (1966) extended the Cartersville fault southward to near Bolivar, but questioned its existence east of Cartersville. They reassigned rocks defined by Hayes as Ocoee to the Weisner Formation of the Chilhowee Group (Bentley and others, 1966).

In 1970, Crawford and Medlin suggested that graphitic phyllites of the Talladega belt were equivalent to those in the Sandy Springs Group and Cressler (1970) described parts of the Talladega belt in his study of the geology and hydrology of Polk County. Hurst (1970, 1973) published regional reports that included what is here termed "Blue Ridge." Hurst (1970) outlined metamorphic isograds and indicated that the Cartersville fault was present east of Cartersville. Hurst (1973) interpreted the Cartersville fault to be absent east of Cartersville and equated rocks overlying the Corbin Gneiss with the Weisner Formation and Shady Dolomite. Crawford and Medlin (1973) suggested that Talladega belt rocks are equivalent to rocks exposed in the Austell-Frolona antiform to the southeast; Fairley (1973) equated members of the Murphy belt group with rocks south of the Allatoona fault (i.e., New Georgia Group of this report); and Power and Forrest (1973, p. 698) described the stratigraphy and paleogeography of the Murphy belt group suggesting it represented an "ancient transgressive linear shoreline."

During 1973, information regarding relative ages of rocks in the Blue Ridge also was published. McLaughlin and Hathaway (1973) described the occurrence of fossils in the Murphy Marble that suggested an early Paleozoic age for the marble, but Chapman and Klatt (1983) cast doubt on this interpretation by showing that fossils associated with the Murphy marble are within Quaternary sinkhole deposits. Odom and others (1973) reported a Pb-Pb age of 1000 m.y. from zircons extracted from the Corbin Gneiss. Dallmeyer (1975) confirmed a Grenville or Proterozoic Y age for the Corbin Gneiss using $^{40}Ar/^{39}Ar$ techniques.

Since 1973, published work on Blue Ridge geology was related primarily to problems of the Cartersville fault east of Cartersville and the stratigraphy and structure of the rocks southeast of Emerson (Plate I). Crawford (1976, 1977a, 1977b), in several open-file maps, outlined the lithologic characteristics of the northeastern portion of the Talladega belt. Crawford's interpretation of the western portion of the Cartersville fault was reported in the Georgia Geological Society guidebook prepared by Chowns (1977). Crickmay (1933) and Costello (1978) reported on ductile shear zones in the Corbin Gneiss; O'Connor and others (1978) reported on the stratigraphy and structure of the Salem Church anticlinorium; and McConnell and Costello (1979) indicated that large-scale crustal shortening had occurred in the southwestern Blue Ridge. Cressler and others (1979) and Crawford and Cressler (1981, 1982) suggested that the Talladega "Group" and associated lithologies overthrust the Great Smoky fault (an extension of the Cartersville fault in this report) and the southwestern terminus of the Salem Church anticlinorium along a low-angle fault termed the "Emerson (Cartersville) fault." McConnell and Costello (1980b, 1982a) disputed this interpretation and suggested that rock units of the Talladega belt bend around the Emerson reentrant in the Cartersville-Great Smoky fault (Cartersville fault in this report) and merge with rocks of the Ocoee Supergroup. McConnell and Costello (1980b) and Costello and McConnell (1980) outlined the basic stratigraphy of rocks nonconformably overlying the Corbin Gneiss equating them to the Ocoee Supergroup. Some of these units were later formalized (McConnell and Costello, 1984).

Other recent publications on the geology of the Blue Ridge include "Economic geology of the Georgia Marble District" (Power, 1978), a report on uranium in graphitic phyllites in this area (McConnell and Costello, 1980a), and an abstract on recumbent folding in rocks nonconformably overlying the Corbin Gneiss (Costello and McConnell, 1981). In 1982, a preliminary compilation of the geology in the Greater Atlanta Regional Map area was published (McConnell and Abrams, 1982a).

NORTHERN PIEDMONT

The term northern Piedmont as used in this report includes those rocks northwest of the Brevard fault zone and southeast of the Allatoona fault. Although the problem of regional "belt" terminology was discussed in a previous section, it can be said here that rocks and stratigraphic successions of the northern Piedmont strongly resemble those south of the Brevard fault zone and differ from Ocoee Supergroup, Murphy belt group and Talladega "Group" rocks north of the Allatoona fault. These relationships as well as the fact that the area between the Brevard and Allatoona faults is physiographically Piedmont are the factors related to terming this area northern Piedmont.

Previous works on the geology of the northern Piedmont are bimodally split with regard to time. During the late [illegible] and early 1900's, bulletins published by the Geological Survey of Georgia dealt with many economic minerals know[illegible] in the northern Piedmont. Early publications re[illegible] to economic mineral and rock occurrences present in th[illegible] Piedmont include reports on corundum deposits (K[illegible]), gold deposits (Yeates and others, 1896; Jones, 19[illegible] and gneisses (Watson, 1902), manganese (Wat[illegible]), asbestos, talc and soapstone (Hopkins, 1914), pyr[illegible] (Shearer and Hull, 1918), manganese (Hull and oth[illegible]).

iron ore deposits (Haseltine, 1924), and aluminosilicate deposits (Prindle, 1935; Furcron and Teague, 1945).

In the years between 1945 and 1966, only two reports on the northern Piedmont were published: Crickmay's (1952) *Geology of the crystalline rocks of Georgia* and Hurst's (1955) geologic map of the Kennesaw Mountain-Sweat Mountain area. In his report, Crickmay coined the belt terminology for Georgia and included what in this report is termed northern Piedmont in his Wedowee-Ashland and Tallulah belts.

Publications relating to the geology of the northern Piedmont picked up again in the late 1960's with Higgins' (1966) report and map (Higgins, 1968) on the Brevard zone. In these publications, Higgins outlined the general stratigraphy north of the Brevard fault zone near Atlanta and introduced the term Sandy Springs Sequence, which was subsequently revised to the Sandy Springs Group by Higgins and McConnell (1978a, 1978b). In the early 1970's Hurst published two regional studies (1970, 1973) on crystalline rocks in Georgia. In the latter of these, Hurst (1973) used the term "Blue Ridge" for what in this report is referred to as northern Piedmont. In addition, Hurst (1973), using terms originally introduced in Alabama by Adams (1926), defined the Ashland Group and Wedowee Formation in Georgia. These terms, derived from rock units described in Alabama, were used to define rocks in the southwestern part of the northern Piedmont. The use of these terms and their applicability are discussed in detail in a later section.

Hurst and Crawford (1970) published a report on the sulfide deposits of the Coosa Valley area which included geochemical maps as well as reconnaissance mapping in Paulding and Haralson Counties and descriptions of cores from various sources. Similar compilations were published by Long (1971) and Hurst and Long (1971) for the Chattahoochee-Flint area. Crawford and Medlin (1970, 1971, 1973, 1974) and Medlin and Crawford (1973) described the stratigraphy and structure of the northern Piedmont in west-central Georgia. These reports presented interpretations regarding the stratigraphy and structure of the area between the Cartersville and Brevard fault zones. Additional publications from the mid-to-early 1970's are: the petrology and geochemistry of some of the felsic gneisses in west Georgia (Coleman and others, 1973; Bearden, 1976; Sanders, 1977); origin and strontium isotope composition of amphibolites in the Cartersville to Villa Rica area (Hurst and Jones, 1973; Jones and others, 1973); a geologic map of Forsyth and parts of Fulton Counties (Murray, 1973); open-file maps of an area along the northwestern border of the northern Piedmont (Crawford, 1976, 1977a, 1977b); and K-Ar dates of rocks on either side of the Brevard zone (Stonebraker, 1973).

In the late 1970's there was a revival of interest in publications regarding economic minerals and their occurrences. Cook (1978b, 1978c) reported on soil geochemistry in the area of the Franklin-Creighton gold mine and on several other massive sulfide deposits in western Georgia. Somewhat later Abrams and others (1981), Abrams and McConnell (1981a, 1982a, 1982b, 1982c) and McConnell and Abrams (1982b, 1983) interpreted the massive sulfide and gold deposits in west Georgia to be volcanogenic in origin and showed the genetic and geographic relationship between banded iron formation and most of the major massive sulfide and gold deposits in west Georgia.

During the late 1970's and early 1980's the results of studies on stratigraphic and structural problems in the northern Piedmont on both local and regional scales were published. Higgins and McConnell (1978a; 1978b) revised and formalized the terminology of the Sandy Springs Group; Kline (1980, 1981) indicated that rocks of the Sandy Springs Group are present south of the Brevard fault zone; McConnell (1980a) described a metabasaltic unit with back-arc basin affinities (i.e., Pumpkinvine Creek Formation) on the northwestern border of the northern Piedmont; and Abrams and McConnell (1981a, 1981b) and McConnell and Abrams (1978) revised the stratigraphy and structural interpretations in the Austell-Villa Rica area emphasizing the influence of multiple deformation in this area. Two regional studies were completed in this period. McConnell and Costello (1980b) led a field trip across the northern Piedmont and southwestern Blue Ridge and defined the major rock units and structural features in those two areas, and McConnell and Abrams (1982a) compiled the available data for the northern Piedmont onto one map.

SOUTHERN PIEDMONT AND BREVARD FAULT ZONE

The term southern Piedmont, as used in this report, consists of rocks southeast of the Brevard fault zone. This usage would include parts of King's (1955) Inner Piedmont belt and Crickmay's (1952) Dadeville belt.

As with all of the aforementioned geographic areas, some of the earliest work performed in the southern Piedmont was published in the form of bulletins describing economic mineral occurrences. Economic minerals and rocks that were discussed in this area include corundum (King, 1894); gold (Yeates and others, 1896; Jones, 1909); asbestos, soapstone and talc deposits (Hopkins, 1914); granites and gneisses (Watson, 1902); kyanite and vermiculite (Prindle, 1935); sillimanite and kyanite (Furcron and Teague, 1945); and pyrite deposits (Shearer and Hull, 1918).

The first significant study of the geology of the southern Piedmont outside of economic reports was that done by Crickmay (1952) in his study of the crystalline rocks in Georgia. Crickmay (1952) termed rocks of the Brevard fault zone the Brevard belt and rocks southeast of the Brevard the Dadeville belt. Two observations in Crickmay's report are interesting in light of the current ideas regarding the nature of the Brevard fault zone. Crickmay commented on the "button" schist, suggesting that it resulted from the formation of a second cleavage, and also noted that rocks of the Dadeville belt were "essentially a repetition of the rocks of the Tallulah belt . . ." (i.e., northern Piedmont) (Crickmay, 1952, p. 6).

Following the work of Crickmay, interest turned to the major post-metamorphic granite intrusives which are so prominent in the Piedmont southeast of the Brevard zone. Herrmann (1954) provided the first detailed mapping in the southern Piedmont in the Stone Mountain-Lithonia district. Herrmann (1954) described in detail the structure and petrography in this area as well as the aggregate industry that had developed. Beginning in 1957, a series of abstracts and articles was published regarding the age of some of the aforementioned granite intrusives. Pinson and others (1957) reported ages of approximately 280 m.y. for the Stone Mountain Granite, 290 m.y. for the Lithonia Gneiss, and 340 m.y. for the Ben Hill Granite. Subsequent publications by Pinson and others (1957a, 1958) and Grunenfelder and Silver

(1958) redefined the ages for the previously mentioned rock units and gave an age of approximately 295 m.y. for the Panola Granite. Interest in the age of these post-metamorphic intrusive rocks continued into the 1960's, 1970's and 1980's as the methodology of isotopic dating improved and the precision of the age determinations was refined. Although the exact ages for these intrusive bodies varied, the succeeding reports (i.e., Long and others, 1959; Whitney and others, 1976; Dallmeyer, 1978; Atkins and Higgins, 1980; Higgins and Atkins, 1981) essentially confirmed late Paleozoic ages for the post-metamorphic intrusive rocks. The results of investigations into the timing of metamorphism were being reported at the same time as ages for post-metamorphic intrusives. Initial K-Ar work on schists and gneisses in the southern Piedmont by Pinson and others (1957), Kulp and Eckelmann (1961) and Long and others (1959) indicated ages from approximately 350 m.y. to 250 m.y. with a distinct "younging" trend to the southeast from Atlanta. Kulp and Eckelmann (1961) suggested that these ages indicated two periods of regional metamorphism: one at approximately 350 m.y. and the second near 250 m.y. ago. Using the above ages, Hurst (1970) coined the term "hot belt" for the area containing the younger ages. Stonebraker (1973) provided additional K-Ar analyses on samples from traverses across the Brevard zone near Atlanta. Finally, Dallmeyer (1975) indicated that $^{40}Ar/^{39}Ar$ ages suggested that the younger age-dates obtained by K-Ar methods are the result of differences in cooling and uplift rates. He suggested an age of 365 m.y. for peak metamorphism of the region described here as southern Piedmont (Dallmeyer, 1975).

Outside of isotopic dating efforts, geologic interest in the southern Piedmont during the late 1950's and 1960's was concentrated around the Stone Mountain Granite. Reports regarding mineralogical variation (Wright, 1966), weathering (Grant, 1963), and intrusion mechanics (Grant, 1969) of the Stone Mountain Granite were published during this time period. Grant (1962) also led a field trip into the Stone Mountain-Lithonia district. The 1970's and early 1980's saw a continuation of geologic interest in the Stone Mountain Granite. Reports on the origin (Whitney and others, 1976) and geochemistry (Atkins and others, 1980b) of the Stone Mountain Granite as well as another field trip guidebook for the area (Grant and others, 1980) were published.

After a gap of over a decade, publication on the stratigraphy and structure of the southern Piedmont resumed in the mid-1960's with the publications on the Brevard zone by Higgins (1966, 1968). In the recent past, reports regarding the various aspects of stratigraphy and structure were published (i.e., Atkins and Higgins, 1978, 1980; Atkins and others, 1980a; Higgins and others, 1980a, 1980b; Higgins and Atkins, 1981; Kline, 1980, 1981).

Much of the preceding geologic information from all of the aforementioned geographic areas was included in the compilation of the 1976 State Geologic Map of Georgia. This map also included unpublished reconnaissance mapping by various geologists (Georgia Geologic Survey, 1976).

STRATIGRAPHY

Introduction

Detailed and reconnaissance geologic mapping has formed the basis on which stratigraphic successions for the Blue Ridge, northern Piedmont and southern Piedmont were developed. Much of this mapping expanded upon earlier reconnaissance mapping by many authors.

In the Blue Ridge, the proposed stratigraphic terminology and correlations are, to some degree, a return to those of C. W. Hayes (1895) in his unpublished report on the Cartersville 30-minute sheet. Although written nearly 100 years ago, Hayes' report on the Cartersville area, particularly the stratigraphic correlations and his interpretation of the relationship between the Corbin Gneiss Complex and its cover rocks, is consistent with our interpretations.

South of the Allatoona fault and north of the Brevard zone, imprecise and over-extended terms such as Ashland and Wedowee are abandoned in favor of two major groups (i.e., New Georgia and Sandy Springs Groups) that are distinguished on the basis of lithology, protolith, and depositional environment. Resolution of a recognizable stratigraphy in the northern Piedmont also has led to the recognition of stratigraphic indicators for massive sulfide and gold deposits (Abrams and McConnell, 1982a).

Southeast of the Brevard fault zone, Higgins and Atkins (1981) defined the Atlanta Group. In this report, we use units defined by Higgins and Atkins, but reinterpret the structural setting, redefining the major structural feature, the Newnan-Tucker synform, as a synformal anticline rather than a synformal syncline as originally proposed (Higgins and Atkins, 1981). The stratigraphic succession used in the Valley and Ridge is after Cressler (1970) and Cressler and others (1979), which were modified from Hayes (1902) and Butts and Gildersleeve (1948).

The following discussion describes in detail only those rock units that are in areas which have undergone substantial revision during this investigation. In this report capitalization of previously defined stratigraphic units follows the original author's usage unless otherwise defined in this text. For a description of all stratigraphic units within the Greater Atlanta Regional area see Appendix A of this report.

Stratigraphy of the Valley and Ridge

Rocks ranging in age from Lower Cambrian(?) to Pennsylvanian are present in the Valley and Ridge portion of the Greater Atlanta Regional Map. Our work in the Valley and Ridge portion of the Greater Atlanta Region was directed at an area in the immediate vicinity of Cartersville (Fig. 2). For this reason we have limited our discussion of Valley and Ridge stratigraphy to rocks in that area. This means that only Lower Cambrian rocks (Chilhowee through Rome Formations) are discussed. The reader is referred to Appendix A for detailed descriptions of the Middle Cambrian through Pennsylvanian section in this area.

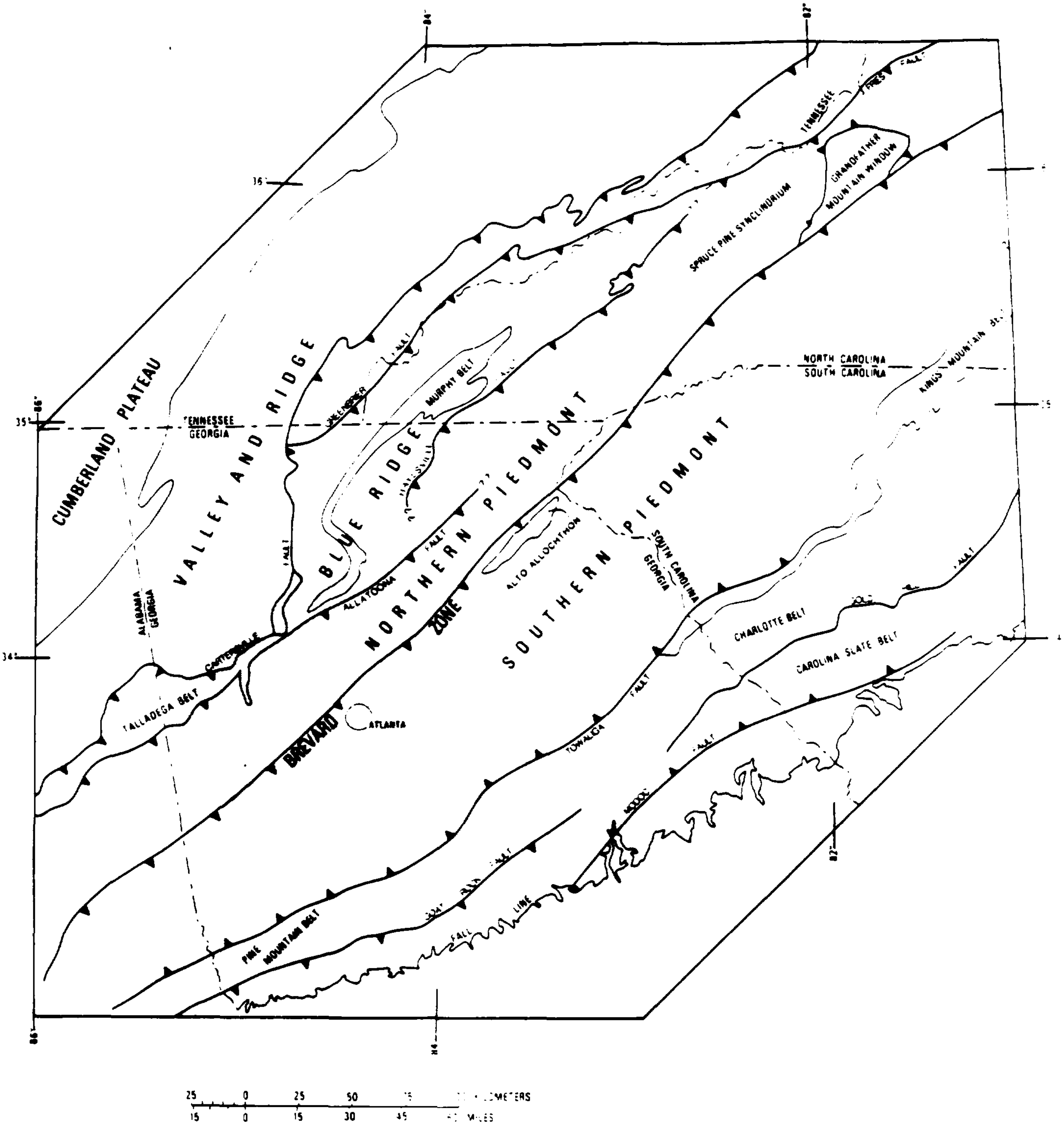


Figure 2. Regional location map showing boundaries of the Greater Atlanta Regional Map and regional setting of map area (modified after McConnell and Costello, 1982).

Chilhowee Group rocks are the oldest rocks present in the Valley and Ridge. The base of the Chilhowee is not exposed in this area because the Chilhowee occurs as the oldest unit in a series of imbricate thrust sheets along the trace of the Cartersville fault. Mack (1980) divided the Chilhowee Group in Georgia and Alabama into four formations, i.e., Cochran, Nichols, Wilson Ridge and Weisner Formations (Table 1). Of these, only the two uppermost units (i.e., Wilson Ridge and Weisner) are known to be present in the Greater Atlanta Region. Mack (1980) formalized the Wilson Ridge Formation and described it as fine- to coarse-grained, moderately well-sorted orthoquartzite. Overlying the Wilson Ridge Formation is the Weisner Formation (Mack, 1980). The Weisner is composed of very fine- to fine-grained orthoquartzite, varying to cross-bedded fine- to coarse-grained orthoquartzite, conglomerate, and greenish-gray mudstone (Mack, 1980). In light of the controversy over the existence of the Cartersville fault in the vicinity of Cartersville and the equivalence of the Pinelog Formation and Chilhowee Group, it is interesting to note the lithologic differences between the two units. Mack (1980) suggested that the Wilson Ridge Formation was deposited in a nearshore, high-energy environment and the Weisner Formation was deposited in a beach or barrier-island environment. This differs sharply from the characteristics of the Pinelog Formation east of the Cartersville fault where the Pinelog consists of locally, poorly sorted, graded conglomerates, diamictites, and black shales (graphitic phyllites) interlayered with fine- to medium-grained quartzites. These lithologies and textures in the Pinelog Formation are indicative, at least in part, of a high-energy deep-water environment in a rapidly subsiding basin. Previous attempts to equate the Pinelog with the Chilhowee and to deny the existence of the Cartersville fault are discussed in the Blue Ridge section.

Table 1. Stratigraphic successions in the Valley and Ridge. Capitalization of units follows original author's usage.

Hayes, 1902	Butts and Gildersleeve, 1948	Kesler, 1950	Cressler, 1970; and Cressler and others, 1979	Mack, 1980	This Report (after Cressler, 1970; and Cressler and others, 1979)	
Lookout sandstone	Pottsville formation	NOT DEFINED	Pennsylvanian (undivided)	NOT DEFINED	Pennsylvanian (undivided)	Pennsylvanian
Bangor limestone	"Bangor" limestone		Bangor Limestone		Bangor Limestone	Mississippian
Oxmoor sandstone	Floyd shale Rockmart slate		Hartselle Sandstone Member		Hartselle Sandstone Member	
Floyd shale			Floyd Shale		Floyd Shale	
Fort Payne chert	Fort Payne chert		Fort Payne Chert / Lavender Shale Member (both sub-columns)		Fort Payne Chert (Includes Lavender Shale Member)	
Chattanooga shale	Chattanooga shale		Armuchee Chert		Armuchee Chert	Devonian
Frog Mountain sandstone / Armuchee chert	Armuchee chert					
Rockwood formation	Red Mountain formation Sequatchie formation		Red Mountain Formation		Red Mountain Formation	Silurian
Rockmart slate	Maysville limestone Trenton limestone Lowville limestone Ottosee shale Tellico formation Athens shale Holston marble		Upper and Middle Ordovician (undivided) / Rockmart Slate		Upper and Middle Ordovician (undivided)	Ordovician
Chickamauga limestone	Lebanon limestone Lenoir limestone Mosheim limestone Murfreesboro limestone		Upper and Middle Ordovician (undivided) / Lenoir Limestone		Rockmart Slate	
	Newala limestone		Newala Limestone		Newala Limestone	
Knox dolomite	Knox dolomite		Knox Group		Knox Group	
Conasauga formation	Conasauga shale	Conasauga formation	Conasauga Formation		Conasauga Group	Cambrian
Rome formation	Rome formation	Rome formation	Rome Formation		Rome Formation	
Beaver limestone	Shady dolomite	Shady dolomite	Shady Dolomite		Shady Dolomite	
Weisner quartzite	Weisner quartzite	Weisner formation	Chilhowee Group	Weisner Formation Wilson Ridge Formation Nichols Formation Cochran Formation	Chilhowee Group	

Overlying the Chilhowee Group is the Shady Dolomite. The boundaries of the Shady Dolomite in the Cartersville area are subject to some disagreement (Table 1). Kesler (1950) and Reade and others (1980) believe that the Shady Dolomite should be restricted to a basal, thin, black or dark-gray, fine-grained dolostone having paper-thin shale lamellae. In their interpretation, Reade and others (1980) place the overlying gray dolostone and interlayered dolostone and shale in the Rome Formation. In contrast, Cressler and others (1979) place all of the dolostones above the Chilhowee and below the Rome shales in the Shady Dolomite. Archaeocyathids were found in both the lower dark-gray unit and upper light-gray unit (Stan Bearden, personal commun., October, 1982). Costello and others (1982) note that the light-gray dolostones interfinger with shales that generally are assigned to the Rome Formation and indicate that they are time equivalents of the Rome Formation. This report follows the definition of the Shady Dolomite as reported by Cressler and others (1979) (Table 1).

The Rome Formation is composed of fine-grained, slightly calcareous, green to red sandstone (Butts and Gildersleeve, 1948). Sandstone is interlayered with greenish shale that weathers to a gray, pinkish or yellowish shale. Thin layers of limestone also are present.

Stratigraphy of the Blue Ridge

The Blue Ridge portion of the Greater Atlanta Regional Map is dominated by two major structural features which lie adjacent to each other (Fig. 3), the Salem Church anticlinorium and Murphy synclinorium. The determination of a stratigraphic succession in these two structures is complicated by 1) lack of continuous exposures, 2) multiple fold events, 3) both brittle and ductile faulting, 4) sedimentary facies changes, and 5) internal unconformities. The combination of the five above-mentioned factors has resulted in numerous, often conflicting, interpretations regarding the stratigraphic sequence. Generally, interpretations of the stratigraphic sequence in this area were dependent on whether or not the Corbin Gneiss Complex was considered as intrusive into the Blue Ridge sequence and if the Cartersville fault was interpreted to be present east of Cartersville. A brief summary of the various interpretations was presented in the Previous Works section of this report and will not be repeated here, but investigations related to this report (McConnell and Costello, 1980b, 1982a) have shown that Hayes' original work in the area, with minor modifications, is correct. Hayes' observations regarding the presence of a nonconformity between the

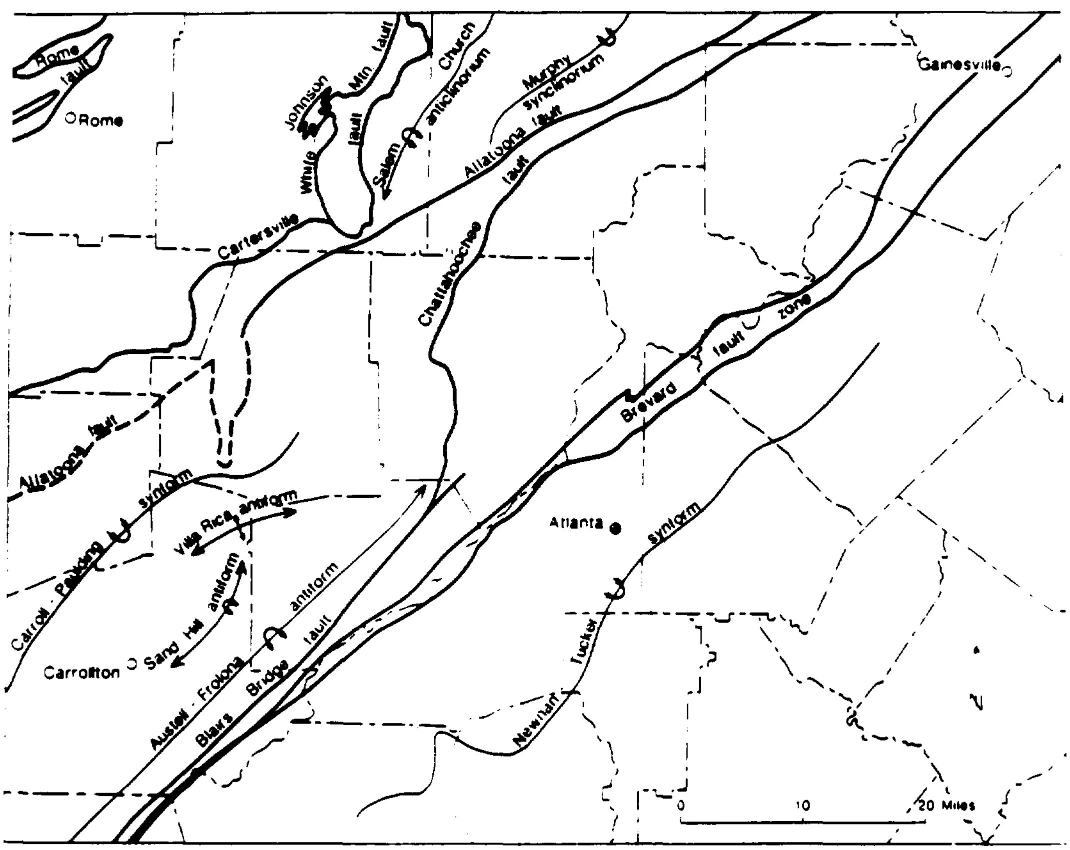


Figure 3. Major structural features of the Greater Atlanta Regional Map.

Stratigraphy of the Piedmont

NORTHERN PIEDMONT

Rocks lying between the Allatoona fault and the Brevard fault zone (Fig. 2) are defined in this report to be in the northern Piedmont. This usage diverges from common terminology used in Alabama. South Carolina and Georgia (i.e., Tull, 1978; Hurst, 1973; Hatcher, 1978a). In several recent reports (McConnell and Costello, 1980b; Abrams and McConnell, 1981a; McConnell and Abrams, 1982a, 1982b) the regional stratigraphy and structure in the northern Piedmont has been revised. These reports resulted from detailed and reconnaissance mapping carried out as part of the Greater Atlanta Regional Map project. A conclusion reached as a result of this mapping effort was that some names previously used to describe major rock units are no longer suitable. Prior to the studies mentioned above, major rock units in western Georgia were either assigned a numerical classification (Crawford and Medlin, 1973) or correlated with the Ashland and Wedowee units in Alabama (Hurst, 1973). The numerical classification used by Crawford and Medlin (1973) is inappropriate due to its dependence on a single major fold event as its basis. Multiple deformation and its influence on the local stratigraphy in the northern Piedmont is documented in many recent reports (Hatcher, 1977, 1978a; McConnell and Costello, 1980b; Abrams and McConnell, 1981a). The numerical designation therefore is abandoned in this report. Relating rocks of the northern Piedmont with the terms Ashland and Wedowee also is not appropriate. Ashland Mica Schist and Wedowee Formation are somewhat ambiguous field terms used by Prouty (1923) and Adams (1926) to describe major rock units in Alabama. Since its introduction, the name Ashland has held several different stratigraphic ranks including group status (Hurst, 1973) and supergroup status (Tull, 1978). Neathery and Reynolds (1973) suggested that the term "Ashland Mica Schist" be abandoned because they believe that units of the Wedowee Formation are traceable across metamorphic boundaries into rocks that were previously assigned to the Ashland Mica Schist. Also, the Wedowee Formation as defined by Bentley and Neathery (1970) contains units defined as part of the Ashland Supergroup by Tull (1978). To add to the confusion, rocks of the Ashland Supergroup as defined by Tull (1978) are present only in the Coosa block and rocks of the Wedowee are present only in the Tallapoosa block. Thomas and others (1979) indicate that only Tallapoosa block rocks (i.e., Wedowee Group and Emuckfaw-Heard sequence) are present in west Georgia north of the Brevard fault zone. However, Hurst (1973) has defined rocks of both Wedowee Formation and Ashland Group in the northern Piedmont of Georgia.

Due to their ambiguous original definition, their subsequent accumulation of several different stratigraphic ranks, and confusion over their boundaries, McConnell and Costello (1980b) suggested that both Ashland and Wedowee be dropped as stratigraphic names in Georgia. To replace Ashland and Wedowee in Georgia, McConnell and Costello (1980b) informally introduced the names Dallas group and Roosterville group. These two groups together with the Sandy Springs Group (Higgins and McConnell, 1978a, 1978b) encompassed all major rock units in the northern Piedmont of Georgia. In a subsequent report, Abrams and McConnell (1981a) revised the boundary between the Dallas and Roosterville groups and changed the name of the Dallas group to New Georgia Group (Fig. 11). As a result of the boundary change, sequences of rocks of dominantly volcanic origin comprise the New Georgia Group.

Although areal separation and apparent lithologic differences prohibit any direct correlation with rocks in Georgia, we speculate that rocks of the New Georgia Group are, at least in part, equivalent to rocks of the Ashland Supergroup (Table 4). This is based primarily on the fact that both the New Georgia Group and Ashland Supergroup contain a large proportion of metavolcanic rocks and similar types of ore deposits. In addition, we also suggest that rocks defined as Wedowee Formation in Alabama (Tull, 1978) are equivalent to rocks of the Sandy Springs Group, particularly rocks of the Sandy Springs Group western belt. This correlation is based on lithologic similarities and the association of both Sandy Springs Group and Wedowee Formation with major volcanic-bearing rock groups (i.e., New Georgia Group and Ashland Supergroup, respectively).

In their preliminary report, McConnell and Costello (1980b) indicated that the Sandy Springs Group was the oldest rock sequence in the northern Piedmont. This interpretation was based on lithologic similarities between the Sandy Springs Group and Tallulah Falls Formation (Hatcher, 1974), the latter of which lies, at least in part, nonconformably on Grenville basement in northeast Georgia (Hatcher, 1977, 1978a). Hatcher (1978a) also speculated, however, that a large part of the Tallulah Falls Formation was dep[illegible]ed on oceanic crust. Recent mapping in western Georgia supports the oceanic crust hypothesis. Rocks of the New Georgia Group are interpreted to represent back-arc basin volcanics that formed on attenuated (rifted) continential crust. This interpretation is based on chemistry of the volcanic rocks in the New Georgia Group which is bimodal and suggests back-arc basin or ocean ridge tholeiite affinity (McConnell, 1980a; McConnell and Abrams, 1982b). The presence of attenuated and, possibly, largely engulfed continental crust is postulated to provide a source for the large volume of felsic volcanic rocks in the New Georgia Group and to provide a mechanism for the presence of Grenville basement unconformably beneath the Tallulah Falls Formation. We further speculate that as volcanic activity decreased in the basin, it was infilled by flysch facies greywackes, argillites and subordinate volcanic rocks of the Sandy Springs Group.

Another result of the detailed mapping in western Georgia is the confirmation of lithostratigraphic equivalence between rocks of the Roosterville group and Sandy Springs Group. McConnell and Costello (1980b) suggested the possible equivalence of the two units in their report. In this bulletin, we propose that the term "Roosterville group" be dropped and rocks previously within the Roosterville be considered to be the western belt of the Sandy Springs Group (Fig. 11). This proposal is based on lithologic similarities between units of the Sandy Springs Group and Roosterville group as well as on the presence of similar stratigraphic sequences in both gr[illegible]ps.

In the following discussion an interpretati[illegible] of the stratigraphic sequence in the northern Piedmont is [illegible]ted. Due to a lack of definitive isotopic ages, regionally s[illegible]ficant

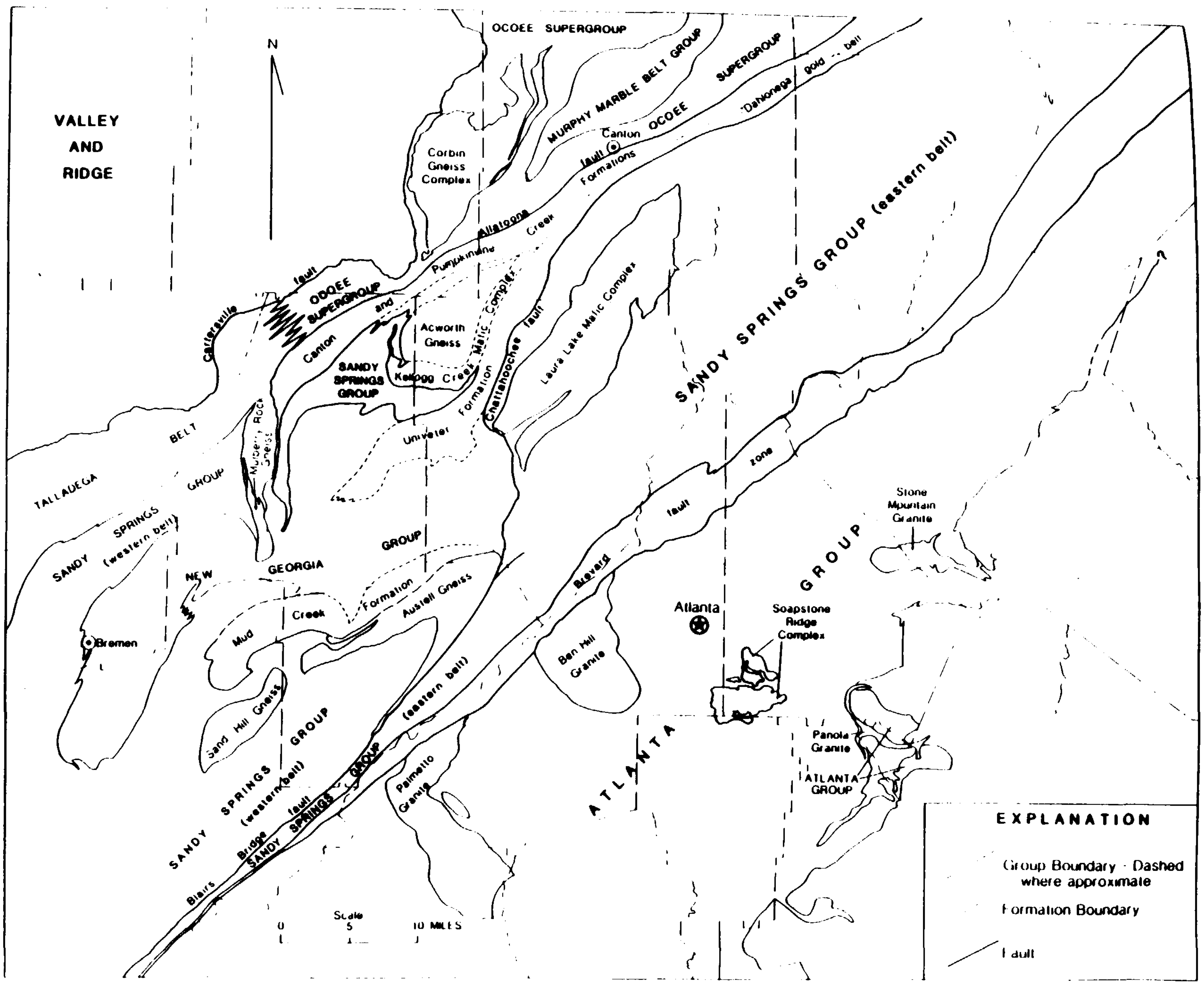


Figure 11 Group and formation boundaries of the crystalline rocks of the Greater Atlanta Regional Map.

Table 4. Proposed correlation chart of lithologic units in the Alabama, Georgia and South Carolina Piedmont.

Alabama (Modified after Tull 1978)		Georgia (this report) west		Georgia (this report) east	Northeast Georgia and South Carolina Hatcher (1974)		Georgia Modified after Hurst* (1973)
[illegible]		Sandy Springs Group	B[illegible] Arp Formation	Factory Shoals Formation	Tallulah Falls Formation	Greywacke, schist Quartzite, schist	Wedowee Formation
Wedowee Group		Sandy Springs Group	Andy Mountain Formation	Factory Shoals Formation	Tallulah Falls Formation	Aluminous schist	Wedowee Formation
Wedowee Group		Sandy Springs Group	Andy Mountain Formation	Chattahoochee Palisades Quartzite	Tallulah Falls Formation	not present	Wedowee Formation
Ashland Supergroup	Mad Indian and Hatchet Creek Groups	Sandy Springs Group	Dog River Formation	Powers Ferry Formation	Tallulah Falls Formation	Greywacke, schist, amphibolite	Wedowee Formation
Ashland Supergroup	Higgins Ferry and Poe Bridge Mountain Formations	New Georgia Group			Hornblende gneiss, amphibolite		Ashland Group
— Fault —							
Hillabee Chlorite Schist		New Georgia Group			Basement		Ashland Group

*Hurst (1973) interpreted the Wedowee to be older than Ashland

facing criteria, and (or) fossils, this interpretation relies in part on the lithologic similarities between rocks of the Sandy Springs Group and Tallulah Falls Formation defined in northeastern Georgia by Hatcher (1971a). The similarities between these two sequences have been noted by many geologists (Hatcher, 1974, 1975; Higgins and McConnell, 1978a; Gillon, 1982). The stratigraphic interpretation presented herein is also in part dependent on Hatcher's (1971a, 1974) interpretation of an unconformable contact between Grenville basement and the Tallulah Falls Formation.

New Georgia Group

Rocks of the New Georgia Group (Abrams and McConnell, 1981a) form an irregular belt that extends from the Bremen area on the west northeastward to Canton where the belt narrows considerably and continues northeastward to at least the Dahlonega area, forming the "Dahlonega gold belt" (Fig. 11). The outcrop belt of the New Georgia Group, which is at least 130 mi. long and, at its widest, is 17 mi. wide, contains most of the base and precious metal deposits in the Greater Atlanta Regional Map area. New Georgia Group rocks are exposed in the core of a large-scale second-generation synform that plunges to the northeast. The base of the New Georgia Group is not exposed and its exact thickness is unknown. Sandy Springs Group (eastern belt) rocks are in fault contact with the New Georgia Group along the Chattahoochee and Blairs Bridge faults in the eastern and northern part of the belt (Plate I and Fig. 11). The contact between the Sandy Springs Group (western belt) and New Georgia Group near Villa Rica is gradational and this gradation is expressed by the apparent waning of volcanic activity as time progressed. The New Georgia Group is characterized by the dominanc[illegible] metavolcanic rocks over metasedimentary rocks. On the ot[illegible] hand, the Sandy Springs Group is dominantly metase[illegible] mentary and contains a steadily decreasing volcanic co[illegible] ponent upward.

That part of the New Georgia Group that is exposed in [illegible] study area is composed of an intermingled sequence [illegible] metamorphosed felsic and mafic volcanic and subvolcar[illegible] rocks, plutonic rocks and a proportionally smaller amount [illegible] sedimentary rocks. At least two cycles of volcanism a[illegible] recognizable in the New Georgia Group, but the scarcity [illegible] distinct volcanic textures due to metamorphic overprinti[illegible] and deformation limits the accuracy of estimates regardi[illegible] the exact proportions of felsic to mafic volcanic material [illegible] these cycles. The obliteration of original sedimentary [illegible] volcanic textures during metamorphism and inten[illegible] deformation and complexities within the original volcanic p[illegible] combine to make definition of internal stratigraphy in t[illegible] New Georgia Group very difficult. However, portions of t[illegible] New Georgia Group are relatively well known and provi[illegible] some understanding of the stratigraphy of the group. T[illegible] areas studied in detail occur on the borders of the New Georg[illegible] Group outcrop belt. Lithologic units in these areas are the M[illegible] Creek Formation in the Villa Rica area to the s[illegible]west an[illegible] the Pumpkinvine Creek Formation to the nor[illegible] A thir[illegible] formation in which some idea of internal stra[illegible] of t[illegible] New Georgia Group can be ascertained is [illegible] Formation located near the center of the ou[illegible] of t[illegible] New Georgia Group (Fig. 11).

In the vicinity of Villa Rica, Abrams a[illegible] McConne[illegible] (1981a) were able to define the Mud Creek F[illegible] n of t[illegible]

New Georgia Group (Fig. 11). The Mud Creek Formation is composed predominantly of locally garnetiferous, equigranular hornblende-plagioclase amphibolite and hornblende gneiss interlayered with garnet-biotite schist and gneiss, banded iron formation (magnetite quartzite), and metadacite (low potassium orthogneiss). Banded iron formation forms an excellent stratigraphic marker unit as well as being an important horizon in regard to base and precious metal deposits (Abrams and others, 1981; Abrams and McConnell, 1981a, 1982a). For that reason, banded iron formation in the Villa Rica area was designated a member of the Mud Creek Formation and termed the Cedar Lake Quartzite (Abrams and McConnell, 1981a). The dominant facies of the Cedar Lake Quartzite is composed of layers and disseminated grains of magnetite and specular hematite in a coarse to micro-crystalline quartzite (Fig. 12). Manganese (weathered spessartine quartzite), sulfide and aluminous facies iron formation also are common in the Villa Rica area.

A distinctive structural feature of the Villa Rica area is the Villa Rica antiform (Fig. 13). This antiform is a parasitic

Figure 12. Photograph of Cedar Lake Quartzite (banded iron formation) from the type locality.

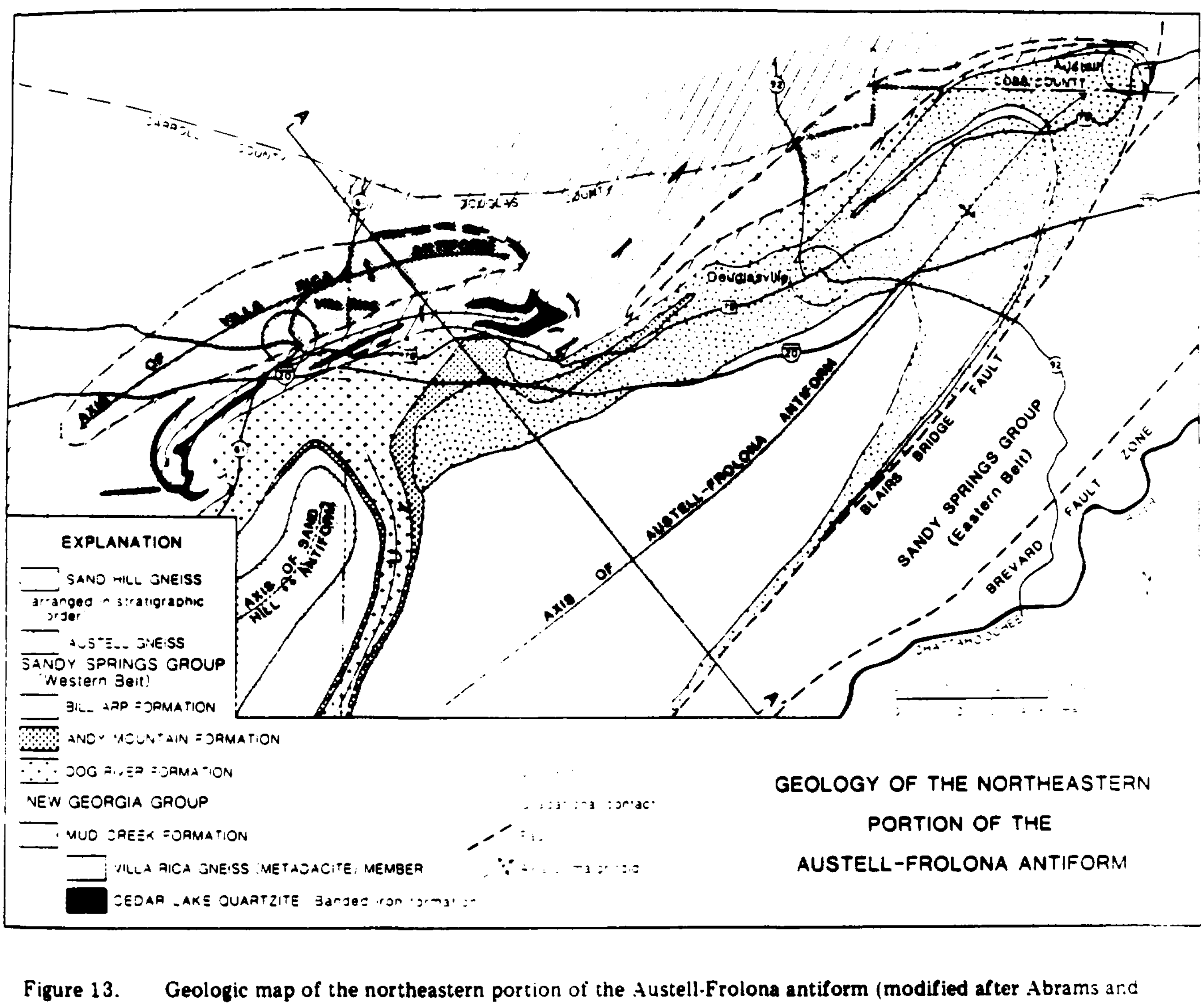


Figure 13. Geologic map of the northeastern portion of the Austell-Frolona antiform (modified after Abrams and McConnell, 1981a). Cross section A - A' is shown in Figure 26.

Stratigraphic control is another aspect to the Brevard fault zone. Hatcher (1975, 1978a) indicated that the Brevard fault zone was stratigraphically controlled for at least part of its length and is bordered by several equivalent rock units (i.e., Heard group, Sandy Springs Group, Tallulah Falls Formation, Ashe Formation) for most of its length. In the Greater Atlanta Regional Map area, the stratigraphic distinction is not as clear as it is to the northeast. Although the Sandy Springs Group is present along the northwestern boundary of the Brevard zone in the Greater Atlanta Region, the absence of units defined as Chauga River Formation (Hatcher, 1969) south of Flowery Branch complicates the issue of stratigraphic control of the Brevard zone. In this area, rocks of the Sandy Springs Group occur on both sides of the Brevard fault zone (Kline, 1980, 1981). However, the Wolf Creek Formation (Higgins and Atkins, 1981), a unit composed of thinly laminated amphibolite interlayered with "button" schist, is lithologically and texturally similar to and in the same relative tectonic position as the Poor Mountain Formation in northeastern Georgia where the Poor Mountain Formation borders on the Alto Allochthon (Hatcher, 1978b). The Wolf Creek Formation may represent the lithostratigraphic equivalent of a portion of the Poor Mountain Formation and the stratigraphic association of the Brevard fault zone readily apparent to the northeast would be present at least as far southwest as Atlanta. A speculative extension of this correlation would be that the rocks exposed in the Newnan-Tucker synform may represent another allochthon resting on Poor Mountain Formation equivalents.

SOUTHERN PIEDMONT

In the recent past, the so-called "belt" terminology or geographic separation of rocks (i.e., northern and southern) was criticized for its ambiguity and in some cases its inapplicability (Crawford and Medlin, 1970; Medlin and Crawford, 1973; McConnell, 1980b). However, no suitable replacement was proposed to enable geographic placement of various rock sequences within the regional geologic framework. In the Atlanta area, rock sequences north of the Brevard fault zone were redefined by one set of workers (McConnell and Costello, 1980b; Abrams and McConnell, 1981a; McConnell and Abrams, 1982a, 1982b; this report), while south of the Brevard, another set of workers has redefined stratigraphic relationships (Atkins and Higgins, 1980; Higgins and Atkins, 1981). Although similar rocks and stratigraphic sequences exist on both sides of the Brevard zone, little effort has gone into relating the two areas. Thus, the geologic distinction between rocks on either side of the Brevard zone is more apparent than real.

Atlanta Group

Studies of stratigraphic relationships within that portion of the Greater Atlanta Regional Map southeast of the Brevard zone generally are limited to two reports (Atkins and Higgins, 1980; Higgins and Atkins, 1981). These reports define a stratigraphic succession of rocks (Atlanta Group, Fig. 11) that occurs in either a synformal anticline or a synformal syncline (Higgins and Atkins, 1981). Higgins and Atkins (1981) interpret this structure as a syncline, but indicate that the stratigraphic sequence they propose is inverted if the alternative hypothesis is correct. Many rock units defined by Higgins and Atkins (1981) are lithologically similar to units defined northwest of the Brevard fault zone (Appendix A gives a brief description of all rock units in the Greater Atlanta Regional Map south of the Brevard fault zone). In the Atlanta area, Kline (1980, 1981) and McConnell (1980b) indicated that rocks of the Sandy Springs Group are present on both sides of the Brevard fault zone. This is consistent with observations farther northeast (Hatcher, 1978b), as well as those related to this report (Plate Ia). The recognition that similar rock sequences exist on both sides of the Brevard zone opens the way for a reinterpretation of stratigraphic relationships within Higgins and Atkins' (1981) Atlanta Group using age and structural relationships established north of the Brevard zone. Rocks northwest of the Brevard zone can serve as a guide for stratigraphic interpretation because of the nonconformable relationship between Grenville basement and Sandy Springs Group equivalent Tallulah Falls Formation in northeastern Georgia (Hatcher, 1974, 1977). Therefore, some indication of stratigraphic "up" is available northwest of the Brevard zone. Comparing mineralogical characteristics of some units in the Atlanta Group with those defined in the northern Piedmont also allows for the reinterpretation of the origin of several rock units defined by Higgins and Atkins (1981), in particular, the Intrenchment Creek Quartzite. The Intrenchment Creek Quartzite is defined as a spessartine-bearing quartzite (coticule rock) and mica schist unit that is composed locally of 15 to 30 percent spessartine garnet and 70 to 85 percent quartz (Higgins and Atkins, 1981). The chemical composition of this rock is attributed to be the result of "halmyrolytic alteration" of oceanic sediments associated with mafic volcanic rocks by Higgins and Atkins (1981, pg. 20). However, spessartine-bearing quartzites are common in the predominantly volcanogenic New Georgia Group northwest of the Brevard zone and in volcanogenic sequences elsewhere (John Slack, personal commun., 1982). In the New Georgia Group spessartine quartzites are associated with banded iron formation. In addition, manganiferous quartzites are a facies of banded iron formation in the Draketown area and contain up to 53 percent manganese (Abrams and McConnell, unpublished data). We suggest that a more likely origin for the Intrenchment Creek Quartzite is derivation from exhalative processes and deposition as a siliceous chemical sediment within a volcanic terrain. The aluminous nature of the quartzite may suggest inclusion of a clay fraction (Abrams and McConnell, 1982b). The presence of garnet facies iron formation in association with mafic and felsic volcanics (i.e., Camp Creek and Big Cotton Indian Creek Formations; Higgins and Atkins, 1981) southeast of the Brevard fault zone is similar to relationships observed in the New Georgia Group northwest of the Brevard zone. The fact that similar stratigraphic sequences are present on both sides of the Brevard zone (Hatcher, 1972, 1978b; Crawford and Medlin, 1973; Kline, 1980, 1981; McConnell, 1980b) and that lithologic similarities exist between the New Georgia Group and the Intrenchment Creek Quartzite-Camp Creek Formation, Big Cotton Indian Creek sequence suggest that they formed in similar environments, [illegible] contemporaneously. If the above-mentioned stratigraphic sequences are coeval, a basis for reinterpreting the character of the Newnan-Tucker synform (Higgins and Atkins, 1981) exists. In this report, the Camp Creek Formation, Big Cotton Indian Creek Formation and Intrenchment Creek Quartzite are interpreted as the oldest units in the Atlanta Group (analogous to the New Georgia Group northwest of the Brevard fault zone) and the Newnan-Tucker synform, therefore, is a synformal anticline with stratigraphically younger units occurring on limbs of the structure (Plate I). Sandy Springs Group rocks and their probable equivalents[1] in the Atlanta Group (Table 11, Plate Ib) are present on the limbs of the synform and stratigraphically overlie New Georgia Group equivalents (Plate I).

We also suggest that the relationship of Snellville Formation rocks to the Lithonia Gneiss is more likely a fault than an unconformity as previously suggested by Atkins and Higgins (1980). Atkins and Higgins (1980) interpreted this contact as an unconformity, but also gave evidence for characterizing this contact as a fault. This bulletin favors the latter interpretation of this contact primarily because of evidence cited by Atkins and Higgins (1980). Also, the "unconformity" interpretation requires a second Paleozoic metamorphic event for which, in the Greater Atlanta Region, there is a lack of strong evidence. However, due to a lack of detailed mapping in the area by the authors of this bulletin, the contact is expressed as a stratigraphic contact on Plate I.

Outside of the area mapped by Higgins and Atkins (1981) little to no data are available for compilation. Information that does exist is in the form of open-file maps. Other areas (i.e., the easternmost part of the Greater Atlanta Regional Map) where no detailed data are available for compilation are left blank (Plate I). Open-file mapping of Crawford and Medlin (Georgia Geologic Survey, 1976) was used in the southwesternmost portion of the Greater Atlanta Regional Map.

[1] Lithologic descriptions of rocks in the Wolf Creek Formation, Norcross Gneiss and, in part, the Promised Land Formation (Atkins and Higgins, 1980) resemble lithologies in the New Georgia Group and may represent New Georgia equivalents. This correlation would require that other members of the Atlanta Group be part of an allochthonous sheet resting on the Wolf Creek Formation, etc. as was previously proposed in the Brevard Fault Zone section.

Regional Correlations

The similarity between rock units and stratigraphic sequences across the Brevard fault zone was previously discussed in this and previous reports (Crawford and Medlin, 1973; Hatcher, 1972, 1978b). In general, correlatives of the Sandy Springs and New Georgia Groups are believed to occur southeast of the Brevard fault zone in rocks defined as Atlanta Group. We speculate that, although complicated by intrusion of late Paleozoic plutons and the presence of large migmatitic terranes such as the Lithonia Gneiss, rocks defined as Atlanta Group by Higgins and Atkins (1981) probably were deposited in similar environments and had similar provenance to the New Georgia and Sandy Springs Group rocks. Therefore, correlations made in a previous section for rocks of the New Georgia and Sandy Springs Groups (i.e., equivalent to Ashe Formation) may be applicable for rocks of the Atlanta Group.

PLUTONIC ROCKS

Post Grenville-age intrusive rocks generally are limited to the Piedmont portion of the Greater Atlanta Region, although numerous pegmatites occur in the Blue Ridge (Galpin, 1915). In the Greater Atlanta Regional Map area, plutons of known Grenville and possibly older age are restricted to the Corbin Gneiss Complex east of a Cartersville in the Blue Ridge province (Fig. 4) where a 1,000-m.y.-old, coarse, megacrystic facies crosscuts a metasedimentary precursor (Costello, 1978; McConnell and Costello, 1984).

Table 11. Proposed correlation chart of northern and southern Piedmont lithologic units.

Atlanta Group modified after Higgins and Atkins, 1981		Sandy Springs and New Georgia Groups this paper
Snellville Formation	Norris Lake Schist	Factory Shoals Formation
	Lanier Mountain Quartzite Member	Chattahoochee Palisades Quartzite
Inman Yard Formation	Promised Land Formation	Powers Ferry Formation Undifferentiated
Norcross Gneiss	Wolf Creek Formation	
Clairmont Formation	Senoia Formation	
Wahoo Creek Formation		
Stonewall Formation		
Clarkston Formation	Fairburn Member	
	Tar Creek Member	
Big Cotton Indian Formation	Intrenchment Creek Quartzite	New Georgia Group
Camp Creek Formation		

Paleozoic intrusive rocks in the Piedmont may be divided into three main categories. These general categories include plutons interpreted as 1) premetamorphic, 2) pre- to synmetamorphic, and 3) postmetamorphic. Timing of the Paleozoic metamorphic event in the Piedmont is not exactly defined, but was interpreted to have occurred in the Piedmont southeast of the Brevard fault zone 365 m.y. ago by Dallmeyer (1975). Abrams and McConnell (1981b) suggested that the age of peak metamorphism in the northern Piedmont also is approximately 365 m.y. ago. An upper limit on the timing of metamorphism in Georgia may be assumed to be 350 m.y. based on the age of Elberton Granite (Whitney and Wenner, 1980). The three main categories of plutons have distinct chemical signatures. These signatures characterize the evolutionary changes which this portion of the Appalachian orogen has undergone.

Premetamorphic Intrusives (Category 1)

Intrusive rocks in the Piedmont portion of the Greater Atlanta Regional Map that were emplaced prior to major metamorphic and deformational events often have their original character masked by these subsequent events. In particular, it is difficult to distinguish between a fine-grained metaplutonic rock and a metavolcanic rock due to obliteration of most igneous textures by subsequent recrystallization. However, several premetamorphic plutons are recognizable in this area. Most of the plutons of this category are in close proximity to extrusive rocks of similar composition. Because of this association we have termed these intrusive and extrusive rocks, intrusive-extrusive complexes. Other characteristics of plutons in this category are general concordance with regional trends, low potassium concentrations in felsic units and moderately high TiO_2 concentrations in mafic units.

In the northern Piedmont, intrusive-extrusive complexes are recognized only in the New Georgia Group where they are associated with numerous volcanogenic massive sulfide and gold deposits (Abrams and others, 1981; McConnell and Abrams, 1982b). Intrusions of this category also have been affected by all major episodes of penetrative deformation to have affected the Piedmont. The Villa Rica Gneiss, Laura Lake Mafic Complex, Acworth Gneiss, Kellogg Creek Mafic Complex and Galts Ferry Gneiss are members of the premetamorphic category north of the Brevard fault zone, while biotite-plagioclase gneisses in the Big Cotton Indian, Camp Creek, and possibly Promised Land Formations as well as the Norcross Gneiss may represent premetamorphic intrusive-extrusive complexes south of the Brevard zone.

One of the characteristics of premetamorphic felsic to intermediate intrusive rocks in the New Georgia Group is the low concentration of potassium in these rocks. This characteristic is documented by major element analyses of the Galts Ferry Gneiss, Villa Rica Gneiss and Dallas gneiss (Table 5; Fig. 30) and modal analyses of the Villa Rica, Dallas, Galts Ferry and Acworth Gneisses (Table 9; Fig. 14). At this stage, some consideration must be given to the fact that potassium, due to its high mobility during metamorphism, may have migrated out of the felsic gneisses of this category (James Tull, personal commun., 1983). However, we find no evidence for this migration and feel that it would be fortuitous for potassium migration to occur preferentially in one rock unit in the northern Piedmont (New Georgia Group) with respect to another (Austell Gneiss). While we believe that potassium, sodium, aluminum, and magnesium alteration has affected many of the rocks in the New Georgia Group as seen in the coarse garnet-chlorite schists and coarse kyanite-quartz granofels, we interpret these as primary features formed largely by the hydrothermal plumbing system present when volcanic rocks of the New Georgia Group were being deposited.

Mafic intrusive complexes of category 1 in the northern Piedmont are the Laura Lake and Kellogg Creek Mafic Complexes. The Laura Lake and Kellogg Creek Complexes are apparently associated with mafic extrusives and with rocks of dacitic composition (i.e., Acworth Gneiss in association with the Kellogg Creek, see Plate I; and felsic components in the Laura Lake Complex).

The Laura Lake Mafic Complex is the largest intrusive-extrusive complex (approximately 80 sq. mi.) in the Piedmont portion of the Greater Atlanta Regional Map (Plate I). The term Laura Lake Mafic Complex was introduced informally by McConnell and Costello (1980b) to describe a large body of amphibolite, metagabbro and meta-ultramafic rocks in eastern Cobb and southern Cherokee Counties (Plate I). We propose to elevate the term to formal status. The Laura Lake Mafic Complex is named for exposures near Laura Lake in eastern Cobb County (Fig. 31).

The areal extent and mafic character of the Laura Lake Mafic Complex should result in a significant aeromagnetic signature; however, aeromagnetic maps currently available characterize the Laura Lake Complex as a series of elongate highs and lows (Higgins and Zietz, 1975). The composite mass of Laura Lake Complex is not distinguishable on aeromagnetic maps. This contrasts with iron formations associated with the Pumpkinvine Creek and Lost Mountain Formations (Higgins and Zietz, 1975) that form linear aeromagnetic highs in western Cobb County. Very high magnetic anomalies noted as Kennesaw Mountain by Higgins and Zietz (1975) probably are either an expression of iron formation known to be near this area or magnetite porphyroblasts present in the amphibolite and leucocratic gneiss (Fig. 32). Although Higgins and Zietz (1975) suggested that the gneiss at Kennesaw Mountain was allochthonous, lack of a significant aeromagnetic signature for the entire Laura Lake suggests that the complex is thin and probably rootless.

Chemically, the Laura Lake Complex bears some similarity to amphibolites in the New Georgia Group. The Laura Lake is separated from the outcrop belt of the New Georgia Group by a thin strip of Sandy Springs Group rocks. The outcrop pattern of the Laura Lake Complex suggests that it crosscuts stratigraphy in the Sandy Springs Group, particularly in central Cobb County where the Laura Lake Complex lies structurally beneath the Chattahoochee Palisades Quartzite at Sweat and Blackjack Mountains (Plate I). The aforementioned relationships suggest that the Laura Lake may have intruded rocks of the Sandy Springs Group. Due to lithologic similarities between the New Georgia Group and Laura Lake Complex, an alternative interpretation, which is favored by this report, is that the Laura Lake represents a slice of the New Georgia Group that, along with the Sandy Springs Group, was thrust over units of the New Georgia Group along the Chattahoochee fault (Plate I). Local faulting along the eastern margin of the Laura Lake Complex cuts out portions of the Sandy Springs Group. Rock exposures and outcrop mapping are not extensive enough to conclusively prove one interpretation over another.

(Fig. 39). As the trace of the Allatoona fault is somewhat uncertain in this area, the Mulberry Rock Gneiss could lie in either Blue Ridge or Piedmont. If the former is correct, then the possibility exists that the Mulberry Rock could represent basement in this area. Data are limited on the Mulberry Rock Gneiss, but a single modal analysis shows the gneiss to be composed predominantly of muscovite, microcline, quartz, and plagioclase. Modal biotite is notably absent (Table 9). The gneiss is present in the core of a large fold that bends the regional northeast-southwest foliation to a north-south trend (Plate I).

Common to all three intrusives (i.e., the Austell, Sand Hill and Mulberry Rock Gneisses) is that they are compositionally granite to quartz monzonites, lie in the crestal areas of regional folds (see next section), retain the regional foliation, and show distinctly elevated potassium concentrations relative to pre-metamorphic intrusives. Whole-rock chemical analyses of the Austell and Sand Hill Gneisses are presented in Tables 13 and 14. Plotted in relation to silica, other oxide concentrations show a distinct differentiation trend, notably for FeO*, MgO, CaO, and TiO_2 (Fig. 40). Total alkalies remain relatively constant with respect to increasing silica content. The differentiation trend shown in Figure 40 is derived primarily from data on the Austell Gneiss. The fact that samples of the Sand Hill Gneiss plot along the same trend suggests that the Austell and Sand Hill might have a common parent. Also plotted on Figure 40 is a single whole-rock analysis from the Union City Complex (UC2, Table 15). This sample of the Union City Complex plots on or near the Austell-Sand Hill trend. While not conclusive, this suggests that the Union City Complex, at least partially, may have a common parent with the Austell and Sand Hill.

Postmetamorphic Intrusives (Category 3)

Postmetamorphic intrusive rocks in the Greater Atlanta Region can be divided into two subdivisions: those emplaced approximately 300 to 325 m.y. ago, and those emplaced approximately 180 to 230 m.y. ago. The older of the two subdivisions of Category 3 is represented by large felsic plutons such as the Stone Mountain and Palmetto Granites. Intrusives of this older subdivision generally are limited to the area southeast of the Brevard fault zone. The younger of the two subdivisions of Category 3 is represented by Jurassic-Triassic diabase dikes. In the Greater Atlanta Region, diabase dikes occur predominately in the southern Piedmont, but at least one small diabase dike is reported from eastern Cherokee County (Lester and Allen, 1950). All intrusives in Category 3 lack evidence of penetrative deformation associated with Paleozoic metamorphism, although, following peak metamorphism, ductile shearing along the Brevard zone has affected two intrusives in this category (i.e., Palmetto and Ben Hill Granites). Other than geologic mapping, little work was done on intrusives of this category during this investigation. However, published data as well as a small number of new whole-rock analyses provide an opportunity to compare and contrast rocks of the postmetamorphic category with the two categories previously described.

The Stone Mountain Granite is the most comprehensively studied rock unit in the Piedmont portion of the Greater Atlanta Regional Map. Many investigations over the past thirty years (Herrmann, 1954; Wright, 1966; Whitney and others, 1976; Dallmeyer, 1978; Grant and others, 1980; and Whitney and Wenner, 1980) have studied chemical, textural, and mineralogical aspects of the Stone Mountain Granite.

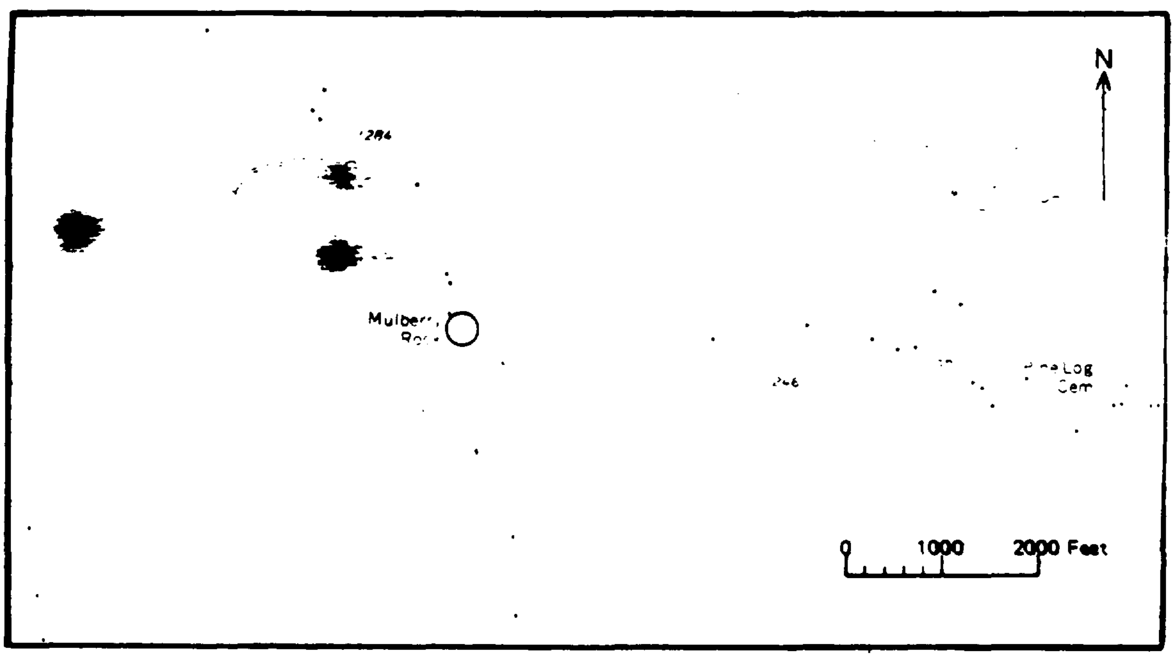


Figure 39. Type locality of the Mulberry Rock Gneiss (U.S. Geological Survey, New Georgia, Georgia, 1:24,000 topographic quadrangle).

Table 13. Chemical and normative analyses of the Austell Gneiss. (Oxides in weight percent.)

SAMPLE NO.	18**	19**	20**	21**	22*	23*	24*	25*	26*	27*	28*	29*	30**	31**	32**
SiO_2	77.1	76.8	77.6	73.0	73.2	71.4	71.0	68.6	76.2	68.7	74.8	77.1	69.8	76.1	72.2
Al_2O_3	12.1	12.1	12.7	15.9	14.2	13.7	13.2	14.2	12.3	14.7	12.8	12.2	14.5	12.7	13.6
Fe_2O_3	0.2	0.4	0.8	0.5	1.1	1.1	1.0	1.2	0.7	1.3	1.1	0.2	1.4	0.4	0.5
FeO	0.8	0.4	0.6	1.0	0.4	1.0	1.4	2.0	0.8	2.0	0.7	0.6	1.7	0.8	2.0
MgO	0.3	0.1	0.2	0.4	0.3	0.8	0.8	1.1	0.6	1.3	0.5	0.4	0.9	0.2	0.9
CaO	1.2	1.0	0.6	1.0	1.3	2.1	1.9	2.9	1.1	3.0	1.6	0.9	3.0	1.4	2.4
Na_2O	3.4	3.5	3.7	3.9	3.5	3.3	3.8	3.8	3.4	4.5	3.5	3.5	3.7	3.6	3.5
K_2O	4.8	4.9	3.8	3.7	4.8	4.4	5.0	3.5	4.9	3.5	4.4	4.6	3.8	4.4	3.6
TiO_2	0.2	0.1	0.2	0.3	0.2	0.4	0.4	0.5	0.2	0.6	0.3	0.1	0.6	0.2	0.4
MnO	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1
TOTAL	100.2	99.4	100.2	99.8	99.0	98.3	98.6	97.9	100.30	99.7	99.8	99.6	99.5	99.9	99.3

CIPW NORMS

	18**	19**	20**	21**	22*	23*	24*	25*	26*	27*	28*	29*	30**	31**	32**
qz	35.92	35.66	39.90	32.91	31.54	30.27	25.58	25.34	34.57	21.39	33.98	36.27	26.12	34.88	30.66
co			1.11	3.66	1.12	.28									
or	28.36	28.96	22.46	21.86	28.36	26.00	29.55	20.68	28.96	20.68	26.00	27.18	22.46	26.00	21.27
ab	28.77	29.62	31.31	33.00	29.62	27.92	32.15	32.15	28.77	38.08	29.62	29.62	31.31	30.46	29.62
an	3.58	2.83	2.98	4.96	5.80	8.81	4.19	11.35	3.83	9.57	6.22	3.99	11.73	5.50	10.77
ne															
wo	.99	.66					1.07	.67	.46	1.75	.42	.07	1.32	.60	.48
en	.39	.25					.61	.38	.34	1.08	.36	.04	.82	.21	.21
fs	.61	.42					.41	.26	.08	.56		.03	.42	.41	.26
en	.35		.50	1.00	.72	1.89	1.41	2.36	1.38	2.16	.83	1.16	1.43	.29	2.03
fs	.55		.11	1.11		.36	.94	1.66	.32	1.12		.82	.74	.58	2.52
fo															
fa															
mt	.29	.58	1.16	.72	.91	1.59	1.39	1.74	1.13	1.88	1.43	.29	2.03	.58	.72
il	.38	.19	.38	.57	.40	.72	.68	1.03	.46	1.18	.63	.27	1.14	.38	.76
hm															
pf															
ru															
ap					.24	.36	.21	.45	.17	.50	.19	.09			
cc						.23	.75	.07	.02	.09	.07	.07			
TOTAL	100.19	99.17	100.21	99.79	99.71	97.93	98.94	98.14	100.49	100.04	99.75	99.90	99.52	99.89	99.30

*After Abrams, 1983

**Analyses done by H. Smith and J. Reid, in the laboratories of the U.S. Geological Survey, Reston, Virginia.

Table 14. Chemical and normative analyses of the Sand Hill Gneiss. (Oxides in weight percent.)

SAMPLE NO.	33**	34**	35**	36**
SiO_2	69.9	73.1	72.6	68.8
Al_2O_3	16.3	13.7	13.4	14.1
Fe_2O_3	1.1	0.4	0.4	1.0
FeO	1.4	1.4	1.6	2.1
MgO	0.6	0.6	0.7	1.0
CaO	2.2	1.2	1.5	2.2
Na_2O	4.4	3.2	3.2	3.3
K_2O	3.1	4.7	4.4	4.6
TiO_2	.05	0.3	0.4	0.6
MnO	.00	0.1	0.1	0.1
TOTAL	99.5	98.7	98.3	97.8

CIPW NORMS

	33**	34**	35**	36**
qz	26.45	32.16	31.92	24.96
co	1.71	1.17	.65	
or	18.32	27.77	26.00	27.18
ab	37.23	27.08	27.08	27.92
an	10.91	5.95	7.44	10.07
ne				
wo				.35
en				.18
fs				.16
en	1.49	1.49	1.74	2.31
fs	.84	1.93	2.13	2.06
fo				
fa				
mt	1.59	.58	.58	1.45
il	.95	.57	.76	1.14
hm				
pf				
ru				
ap				
cc				
TOTAL	99.49	98.70	98.30	97.78

**Analyses done by H. Smith and J. Reid, in the laboratories of the U.S. Geological Survey, Reston, Virginia

ag	**Austell Gneiss** (Abrams and McConnell, 1981a; Abrams, 1983): fine- to coarse-grained blastoporphyritic to nonporphyritic orthogneiss composed of muscovite, biotite, oligoclase, quartz and microcline.
shg	**Sand Hill Gneiss** (this report): fine- to coarse-grained blastoporphyritic to nonporphyritic orthogneiss composed of muscovite, biotite, oligoclase, quartz and microcline. Generally contains more muscovite, quartz and plagioclase and less microcline than Austell Gneiss.
mrg	**Mulberry Rock Gneiss** (this report): medium-grained, equigranular muscovite-quartz-microcline-plagioclase orthogneiss.
d	**Diabase dikes**

SOUTHERN PIEDMONT PROVINCE AND BREVARD FAULT ZONE

	Atlanta Group (late Precambrian to early Paleozoic) (stratigraphic order revised after Higgins and Atkins, 1981):
cc	**Camp Creek Formation** (Higgins and Atkins, 1981): massive granite gneiss interlayered with thin, fine-grained, dark-green hornblende-plagioclase amphibolite.
icq	**Intrenchment Creek Quartzite** (Higgins and Atkins, 1981): spessartine quartzite and spessartine-mica schist interpreted in this report to be banded iron formation.
bci	**Big Cotton Indian Formation** (Higgins and Atkins, 1981): intercalated biotite-plagioclase gneiss (locally porphyritic), hornblende-plagioclase amphibolite, and biotite-muscovite schist.
ca tc f	**Clarkston Formation** (Higgins and Atkins, 1981): sillimanite-garnet-quartz-plagioclase-biotite-muscovite schist interlayered with hornblende-plagioclase amphibolite (ca). Includes a unit composed only of schist termed the Fairburn Member (f); and a unit similar to Clarkston undifferentiated termed the Tar Creek Member (tc).
st	**Stonewall Formation** (Higgins and Atkins, 1981): intercalated fine-grained biotite gneiss, hornblende-plagioclase amphibolite and sillimanite-biotite schist.
wac	**Wahoo Creek Formation** (Higgins and Atkins, 1981): includes slabby, medium-grained muscovite-plagioclase-quartz gneiss, amphibolite, mica schist and epidote-calcite-diopside gneiss (calc-silicate).
se	**Senoia Formation** (Atkins and Higgins, 1981): garnet-biotite-muscovite schist interlayered with fine-grained amphibolite, local thin layers of spessartine quartzite (iron formation?), sillimanite schist and biotite gneiss.
cl	**Clairmont Formation** (Higgins and Atkins, 1981): interlayered medium-grained biotite-plagioclase gneiss and fine- to medium-grained hornblende-plagioclase amphibolite.
pl h	**Promised Land Formation** (Higgins and Atkins, 1981): includes massive to thinly layered, medium-grained, gray, banded biotite granite gneiss interlayered with fine-grained, dark-green to greenish black, blocky amphibolite. A thin quartzite and muscovite quartz schist unit near top of the Promised Land Formation is termed the Hannah Member (h).
wc	**Wolf Creek Formation** (Higgins and Atkins, 1981): thinly laminated, fine-grained amphibolite interlayered with lustrous, silvery gray, biotite-muscovite schist.

iy	**Inman Yard Formation** (Higgins and Atkins, 1981): porphyroblastic biotite-plagioclase gneiss porphyroblastic granite gneiss and sillimanite-muscovite schist.
ng	**Norcross Gneiss** (Higgins and Atkins, 1981): light-gray epidote-biotite-muscovite-plagioclase gneiss locally containing amphibolite.
n l	**Snellville Formation** (Higgins and Atkins, 1981): includes two members, a lower member of interlayered garnet-biotite-muscovite schist, biotite-muscovite schist, thin amphibolites and minor biotite gneiss and quartzite termed the Norris Lake Schist (n) and an upper member composed of quartzite variably containing muscovite, garnet and sillimanite termed the Lanier Mountain Quartzite (l).
pfu cpq fs	**Sandy Springs Group** (Higgins and McConnell, 1978a; Kline, 1980; this report): Similar to sequence observed in northern Piedmont and at least partially equivalent to Atlanta Group (see text). Includes a lower unit of intercalated biotite gneiss, mica schist and amphibolite (pfu); a middle unit composed of micaceous quartzite, mica schist and graphitic schist (cpq); and an upper unit of graphite-garnet-mica schist with lesser amounts of biotite gneiss and amphibolite (fs).
um amp bgn ggn sg bgn/amp/sch q bms m	**Unnamed or unassigned units** (after Grant, unpublished data; this report): includes meta-ultramafic rocks (um); amphibolite (amp); mica schist and biotite gneiss (bgn); granitic gneiss (ggn); interlayered sillimanite-graphite schist and graphitic, feldspathic quartzite (sg); graphitic, micaceous, feldspathic quartzite (q); intercalated biotite gneiss, amphibolite and mica schist (bgn/amp/sch); garnet-mica schist ± staurolite and garnet-biotite gneiss (bms); and marble (m).
Pzss Pzum Pzsa Pzsas	**Soapstone Ridge Complex** (Higgins and Atkins, 1981): includes an actinolite-chlorite-talc schist (Pzss); fine-grained amphibolite (Pzsa), intermixed amphibolite and actinolite-chlorite-talc schist (Pzsas); and coarse-grained ultramafic rock (Pzum). Also present but not defined on Plate I is a mixed amphibolite-metagabbro-ultramafic unit and a sillimanite-quartz blastomylonite and epidosite near the base of the complex.
lig	**Lithonia Gneiss** (Herrmann, 1954): includes evenly banded biotite-quartz-feldspar gneiss, quartz-rich garnetiferous layers and migmatitic muscovite-biotite-plagioclase-microcline-quartz gneiss termed the Mt. Arabia Migmatite (Grant and others, 1980; not outline on Plate I).
Cp	**Palmetto Granite** (Dooley, *in* Atkins and others, 1980a): coarse-grained porphyritic granite composed of microcline, quartz and plagioclase with accessory biotite, muscovite, perthite, sphene, apatite, epidote, and zircon.
Cb	**Ben Hill Granite** (Higgins and Atkins, 1981): coarse-grained, porphyritic muscovite-biotite quartz-plagioclase-microcline granite.
Cpa	**Panola Granite** (Higgins and Atkins, 1981): homogenous, medium-grained biotite-oligoclase-quartz-microcline granite.
Cs	**Stone Mountain Granite** (Herrmann, 1954): fine- to medium-grained granite composed of biotite, muscovite, microcline, quartz and oligoclase with characteristic rosettes of tourmaline.
my bz bzm	**Ductilely sheared rocks**: includes undifferentiated ductilely sheared rocks in the Brevard zone including button schists (bz), mylonites in the Brevard zone (bzm), and mylonite in other areas (my).
d	**Diabase dikes.**

REFERENCE 7

GROUND WATER IN THE GREATER ATLANTA REGION, GEORGIA

by

C. W. Cressler, C. J. Thurmond,

and W. G. Hester

Prepared in cooperation with the

U. S. Geological Survey

Department of Natural Resources

Environmental Protection Division

Georgia Geologic Survey

INFORMATION CIRCULAR 63

GROUND WATER

IN THE GREATER ATLANTA REGION,

GEORGIA

By

C. W. Cressler, C. J. Thurmond, and W. G. Hester

Georgia Department of Natural Resources

Joe D. Tanner, Commissioner

Environmental Protection Division

J. Leonard Ledbetter, Director

Georgia Geologic Survey

William H. McLemore, State Geologist

Prepared in cooperation with the

U.S. Geological Survey

Atlanta

1983

INFORMATION
CIRCULAR 63

REFERENCE 8

RCE • Environmental Science Services Administration • Environmental Data Service

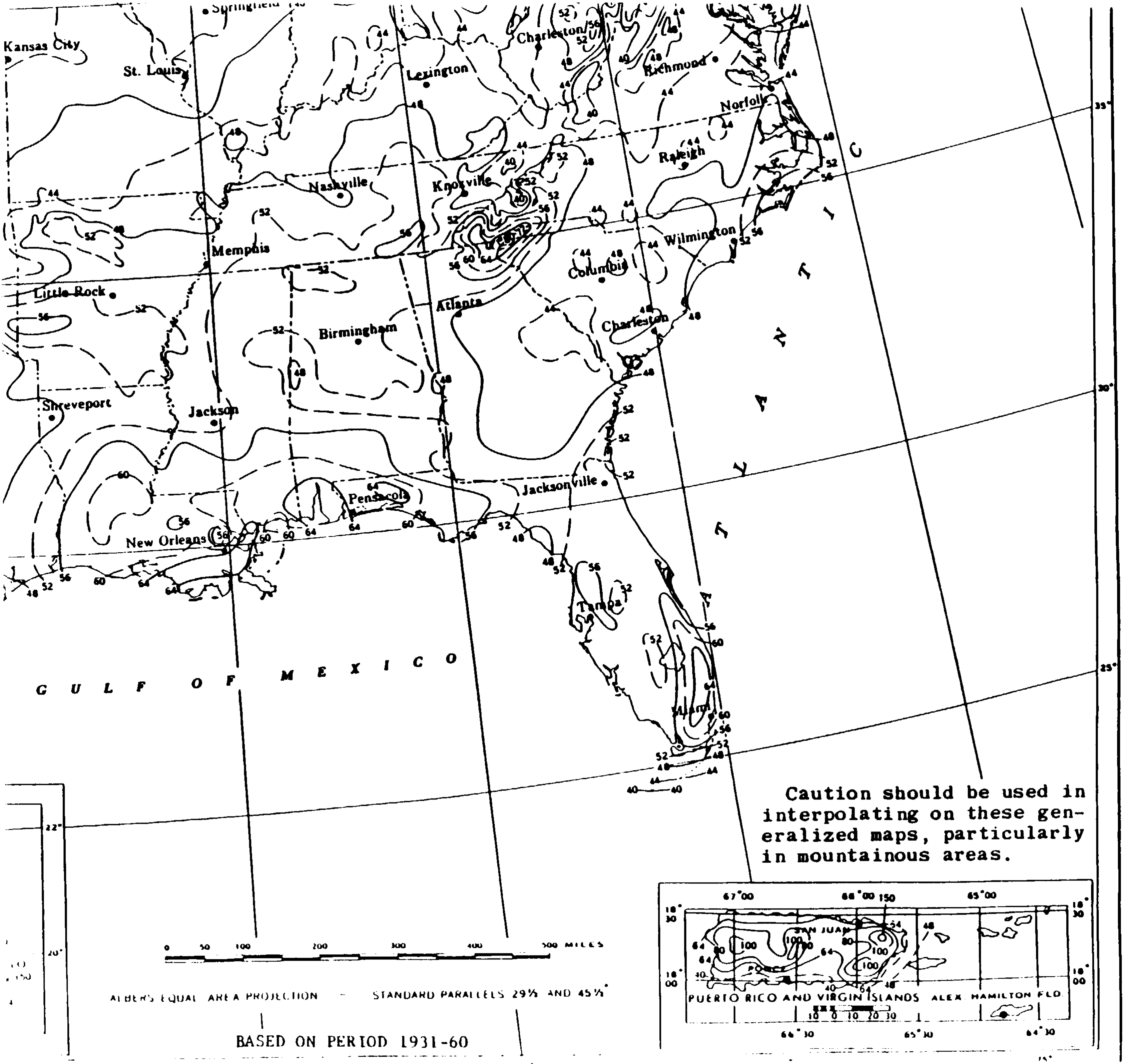
U.S. DEPARTMENT OF COMMERCE
C. R. Smith, Secretary

ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
Robert M. White, Administrator

ENVIRONMENTAL DATA SERVICE
Woodrow C. Jacobs, Director

JUNE 1968

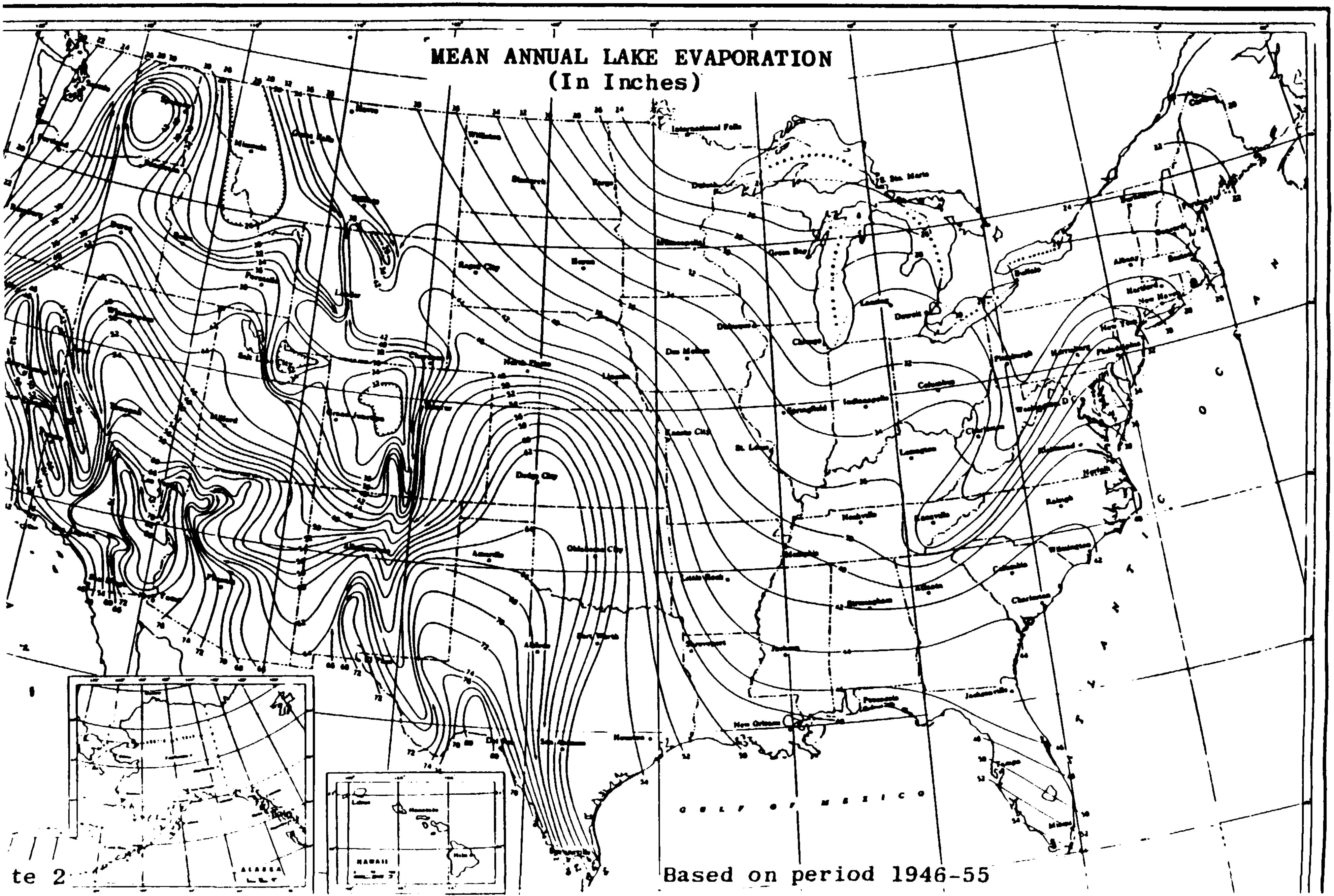
REPRINTED BY THE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
1983



Caution should be used in interpolating on these generalized maps, particularly in mountainous areas.

BASED ON PERIOD 1931-60

E EVAPORATION



te 2

REFERENCE 9

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

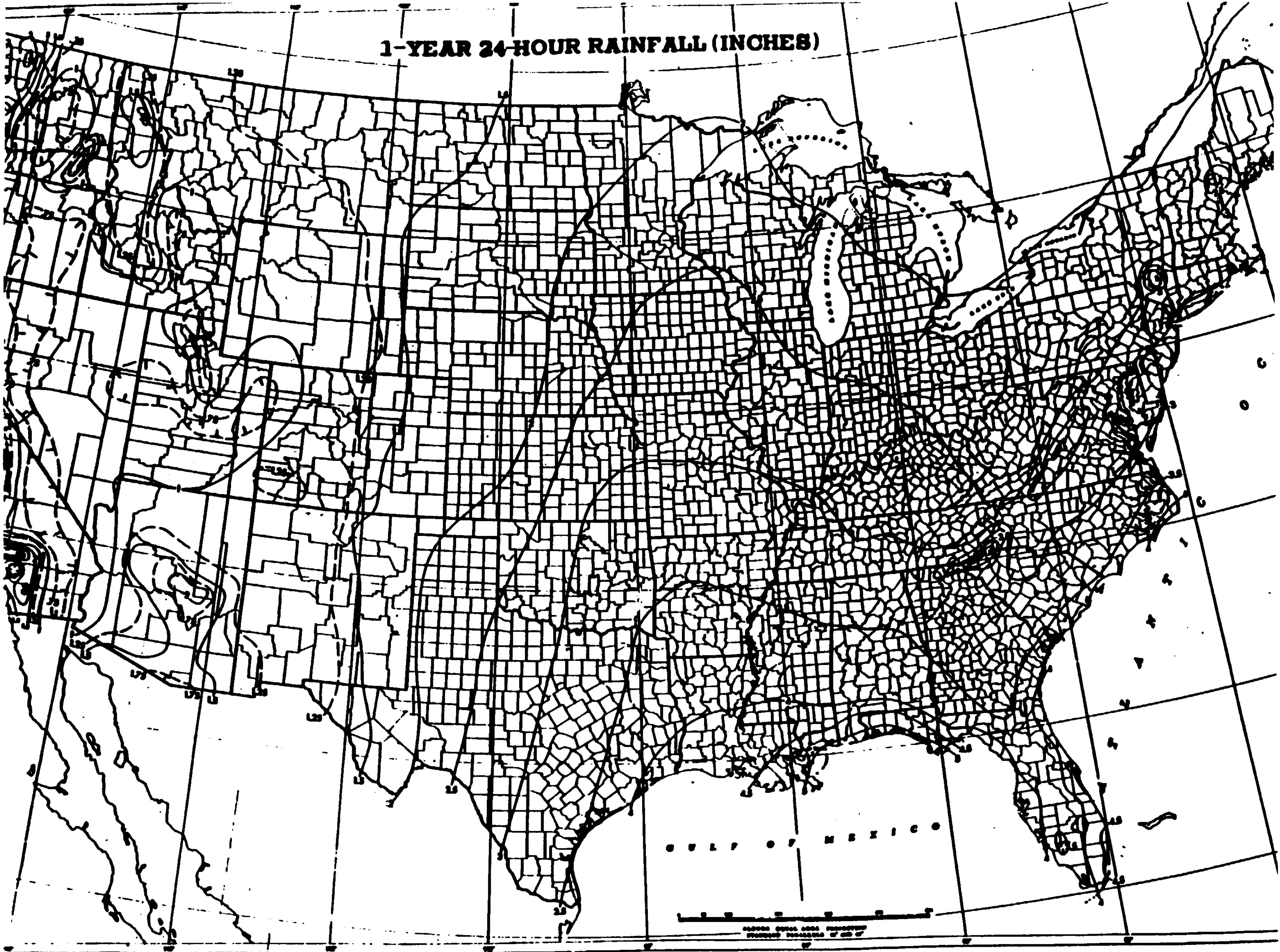
for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

Prepared by
DAVID M. HERSHFIELD
Cooperative Studies Section, Hydrologic Services Division

for

Engineering Division, Soil Conservation Service
U.S. Department of Agriculture

1-YEAR 24-HOUR RAINFALL (INCHES)



NUS CORPORATION AND SUBSIDIARIES		TELECON NOTE
	REFERENCE 10	
CONTROL NO.	DATE: 4-14-89	TIME: 1100

DISTRIBUTION:

File
Atlanta Utility Works

BETWEEN: Superintendent	OF: East Point Water Dept.	PHONE: (404) 765-1070

AND: Jeff Myers, NUS Corporation

DISCUSSION:

The superintendent of East Point Water Department said they obtain their water from an intake in Sweetwater Creek, just north of Lower River Road. The water is pumped from there to a 300 million gallon tank in the city of Ben Hill. Water lines cover the entire 4-mile radius. The water intake serves both East Point and College Park.

NUS CORPORATION AND SUBSIDIARIES		*TELECON NOTE*
	REFERENCE 11	
CONTROL NO. 8905-92	**DATE:** 1/22/90	**TIME:** 10:05A.M.

DISTRIBUTION:

File
Atlanta Utility Works

BETWEEN: Phil Bingham	**OF:** East Point Public Works Dept.	**PHONE:** (404) 765-1039

AND: Martin Wilkerson, NUS Corporation

DISCUSSION:

Street sewers on R.N. Martin Street and Central Avenue in East Point are connected to the South River Treatment Plant on the South River.

NUS CORPORATION AND SUBSIDIARIES		TELECON NOTE

REFERENCE 12

CONTROL NO.	DATE: 9-14-89	TIME: 1045
DISTRIBUTION: File Atlanta Utility Works		
BETWEEN: M. Reeves	**OF:** East Point City Government	**PHONE:** (404) 765-1000
AND: Martin Wilkerson, NUS Corporation		

DISCUSSION:

I asked Ms. Reeves for the latest population census for East Point, Ga. She indicated that the 1980 census was 39,542, and the latest count performed internally from the tax assessors office was 52,000 - 60,000.

REFERENCE 13

ENDANGERED AND THREATENED SPECIES

U.S. FISH AND WILDLIFE SERVICE

REGION 4 - ATLANTA

Federally Listed Species by State

GEORGIA

(E=Endangered; T=Threatened; CH=Critical Habitat determined)

Mammals	General Distribution
Bat, gray (*Myotis grisescens*) - E	Northwest, West
Bat, Indiana (*Myotis sodalis*) - E	Extreme Northwest
Manatee, West Indian (*Trichechus manatus*) - E	Coastal waters
Panther, Florida (*Felis concolor coryi*) - E	Entire state
Whale, finback (*Balaenoptera physalus*) - E	Coastal waters
Whale, humpback (*Megaptera novaeangliae*) - E	Coastal waters
Whale, right (*Eubalaena glacialis*) - E	Coastal waters
Whale, sei (*Balaenoptera borealis*) - E	Coastal waters
Whale, sperm (*Physeter catodon*) - E	Coastal waters

Birds	
Eagle, bald (*Haliaeetus leucocephalus*) - E	Entire state
Falcon, American peregrine (*Falco peregrinus anatum*) - E	North
Falcon, Arctic peregrine (*Falco peregrinus tundrius*) - T	Coast, Northwest
Plover, piping (*Charadrius melodus*) - T	Coast
Stork, wood (*Mycteria americana*) - E	Southeastern swamps
Warbler, Bachman's (*Vermivora bachmanii*) - E	Entire state
Warbler, Kirtland's (*Dendroica kirtlandii*) - E	Coast
Woodpecker, ivory-billed (*Campephilus principalis*) - E	South, Southwest
Woodpecker, red-cockaded (*Picoides* (=*Dendrocopos*) *borealis*) - E	Entire state

Reptiles	
Alligator, American (*Alligator mississippiensis*) - T(S/A)*	Coastal plain
Snake, eastern indigo (*Drymarchon corais couperi*) - T	Southeast

*Alligators are biologically neither endangered nor threatened. For law enforcement purposes they are classified as "Threatened due to Similarity of Appearance." Alligator hunting is regulated in accordance with State law.

GEORGIA (cont'd)

	General Distribution
Turtle, Kemp's (Atlantic) ridley (*Lepidochelys kempii*) - E	Coastal waters
Turtle, green (*Chelonia mydas*) - T	Coastal waters
Turtle, hawksbill (*Eretmochelys imbricata*) - E	Coastal waters
Turtle, leatherback (*Dermochelys coriacea*) - E	Coastal waters
Turtle, loggerhead (*Caretta caretta*) - T	Coastal waters

Fishes

Darter, amber (*Percina antesella*) - E,CH	Conasauga R., Murray County
Darter, snail (*Percina tanasi*) - T	S. Chickamauga Cr., Catoosa Count
Logperch, Conasauga (*Percina jenkinsi*) - E,CH	Conasauga R., Murray County
Sturgeon, shortnose (*Acipenser brevirostrum*) - E	Coastal rivers

Plants

Baptisia arachnifera (hairy rattleweed) - E	Wayne, Brantley Counties
Isotria medeoloides (small whorled pogonia) - E	Rabun County
Lindera melissifolia (pondberry) - E	Wheeler County
Oxypolis canbyi (Canby's dropwort) - E	Burke, Lee, Sumter Counties
Sarracenia oreophila (green pitcher plant)- E	Towns County
Scutellaria montana (large-flowered skullcap) - E	Floyd, Gordon, Walker Counties
Torreya taxifolia (Florida torreya) - E	Decatur County
Trillium persistens (persistent trillium) - E	Tallulah-Tugaloo River system, Rabun and Habersham Counties

EPA | **POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT** | REGION: 4 | SITE NUMBER (to be assigned by Hq): 588

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II (*Preliminary Assessment*). File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (*EN-335*); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: Atlanta Utility Works

B. STREET (*or other identifier*): 1504 Washington Avenue

C. CITY: East Point

D. STATE: GA

E. ZIP CODE: 30344

F. COUNTY NAME: Fulton

G. OWNER/OPERATOR (*if known*)

1. NAME: Allied Chemical Corporation
2. TELEPHONE NUMBER: 404/761-1181

H. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4 MUNICIPAL ☒ 5. PRIVATE ☐ 6 UNKNOWN

I. SITE DESCRIPTION

1 acre area presently closed and grown over with vegetation used for disposal of 800 tons of solid material (silica)

J. HOW IDENTIFIED (*i.e., citizen's complaints, OSHA citations, etc.*): Eckhardt Commission Survey

K. DATE IDENTIFIED (*mo., day, & yr.*): Dec. 1979

L. PRINCIPAL STATE CONTACT

1. NAME: Moses N. McCall, Chief, Land Protection Branch, EPD
2. TELEPHONE NUMBER: 404/656-2833

II. PRELIMINARY ASSESSMENT (*complete this section last*)

A. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☐ 2. MEDIUM ☐ 3. LOW ☒ 4 NONE ☐ 5 UNKNOWN

B. RECOMMENDATION

☒ 1. NO ACTION NEEDED (*no hazard*)

☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR: ____
b. WILL BE PERFORMED BY: ____

☐ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR: ____
b. WILL BE PERFORMED BY: ____

☐ 4. SITE INSPECTION NEEDED (*low priority*)

C. PREPARER INFORMATION

1. NAME: Robert I. Rose
2. TELEPHONE NUMBER: 404/656-2833
3. DATE (*mo., day, & yr.*): 12-19-79

III. SITE INFORMATION

A. SITE STATUS

☐ 1. ACTIVE (*Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.*)

☒ 2. INACTIVE (*Those sites which no longer receive wastes.*)

☐ 3. OTHER (*specify*): ____ (*Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.*)

B. IS GENERATOR ON SITE?

☒ 1. NO ☐ 2. YES (*specify generator's four-digit SIC Code*): ____

C. AREA OF SITE (*in acres*): 1

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES

1. LATITUDE (*deg.—min.—sec.*):
2. LONGITUDE (*deg.—min.—sec.*):

E. ARE THERE BUILDINGS ON THE SITE?

☒ 1. NO ☐ 2. YES (*specify*): ____

Continued From Front

IV. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(*ies*) and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	'X'	B. STORER	'X'	C. TREATER	'X'	D. DISPOSER
	1. RAIL	X	1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION	X	3. OPEN DUMP
X	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS. TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (*specify*):		6. OTHER (*specify*):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (*specify*):
					9. OTHER (*specify*): None		

E. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED

Disposal of silica - pH 3.5

V. WASTE RELATED INFORMATION

A. WASTE TYPE

☐ 1. UNKNOWN ☐ 2. LIQUID ☒ 3. SOLID ☐ 4. SLUDGE ☐ 5. GAS

B. WASTE CHARACTERISTICS

☐ 1. UNKNOWN ☐ 2. CORROSIVE ☐ 3. IGNITABLE ☐ 4. RADIOACTIVE ☐ 5. HIGHLY VOLATILE
☐ 6. TOXIC ☐ 7. REACTIVE ☐ 8. INERT ☐ 9. FLAMMABLE

☐ 10. OTHER (*specify*): None

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

Records and estimates

2. Estimate the amount (*specify unit of measure*) of waste by category; mark 'X' to indicate which wastes are present.

	a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT					800	
UNIT OF MEASURE					tons	

'X'	a. SLUDGE	'X'	b. OIL	'X'	c. SOLVENTS	'X'	d. CHEMICALS	'X'	e. SOLIDS	'X'	f. OTHER
	(1) PAINT, PIGMENTS		(1) OILY WASTES		(1) HALOGENATED SOLVENTS		(1) ACIDS		(1) FLYASH		(1) LABORATORY PHARMACEUT.
	(2) METALS SLUDGES		(2) OTHER (*specify*):		(2) NON-HALOGNTD. SOLVENTS		(2) PICKLING LIQUORS		(2) ASBESTOS		(2) HOSPITAL
	(3) POTW				(3) OTHER (*specify*):		(3) CAUSTICS		(3) MILLING/ MINE TAILINGS		(3) RADIOACTIVE
	(4) ALUMINUM SLUDGE						(4) PESTICIDES		(4) FERROUS SMLTG. WASTES		(4) MUNICIPAL
	(5) OTHER (*specify*):						(5) DYES/INKS		(5) NON-FERROUS SMLTG. WASTES		(5) OTHER (*specify*):
							(6) CYANIDE	X	(6) OTHER (*specify*): Silica residuals pH 3.5		
							(7) PHENOLS				
							(8) HALOGENS				
							(9) PCB				
							(10) METALS				
							(11) OTHER (*specify*)				

 Continue On Page 3

Continued From Page 2

V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of hazard).

None

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

None

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	D. DATE OF INCIDENT (mo., day, yr.)	E. REMARKS
1. NO HAZARD				No Hazard
2. HUMAN HEALTH				
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY				
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER				
8. CONTAMINATION OF SURFACE WATER				
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL				
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS				
13. CONTAMINATION OF SOIL				
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS				
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER (specify):				

Continued From Front

VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE.

- [ ] 1. NPDES PERMIT
- [ ] 2. SPCC PLAN
- [ ] 3. STATE PERMIT *(specify)*:
- [ ] 4. AIR PERMITS
- [ ] 5. LOCAL PERMIT
- [ ] 6. RCRA TRANSPORTER
- [ ] 7 RCRA STORER
- [ ] 8. RCRA TREATER
- [ ] 9 RCRA DISPOSER
- [ ] 10. OTHER *(specify)*: None

B. IN COMPLIANCE?

- [ ] 1. YES
- [ ] 2. NO
- [X] 3. UNKNOWN

4. WITH RESPECT TO *(list regulation name & number)*: Rules & Regs for Solid Waste Mgt. 391-3-4

VIII. PAST REGULATORY ACTIONS

- [X] A. NONE
- [ ] B. YES *(summarize below)*

IX. INSPECTION ACTIVITY *(past or on-going)*

- [ ] A NONE
- [X] B. YES *(complete items 1,2,3, & 4 below)*

1. TYPE OF ACTIVITY	2 DATE OF PAST ACTION *(mo., day, & yr.)*	3 PERFORMED BY: *(EPA/State)*	4. DESCRIPTION
Survey	None	EPD	Eckhardt Survey

X. REMEDIAL ACTIVITY *(past or on-going)*

- [X] A. NONE
- [ ] B. YES *(complete items 1, 2, 3, & 4 below)*

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION *(mo., day, & yr.)*	3. PERFORMED BY: *(EPA/State)*	4. DESCRIPTION

NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment *(Section II)* information on the first page of this form.

EPA

POTENTIAL HAZARDOUS WASTE SITE
FINAL STRATEGY DETERMINATION

REGION	SITE NUMBER
IV	588

File this form in the regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force *(EN-335)*; 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME	B. STREET	
ATLANTA UNTILITY WORKS	1504 WASHINGTON AVENUE	
C. CITY	**D. STATE**	**E. ZIP CODE**
EAST POINT	GEORGIA	30344

II. FINAL DETERMINATION

Indicate the recommended *action(s)* and *agency(ies)* that should be involved by marking 'X' in the appropriate boxes.

RECOMMENDATION	MARK 'X'	ACTION AGENCY: EPA	STATE	LOCAL	PRIVATE
A. NO ACTION NEEDED	X				
B. REMEDIAL ACTION NEEDED, BUT NO RESOURCES AVAILABLE *(If yes, complete Section III.)*					
C. REMEDIAL ACTION *(If yes, complete Section IV.)*					
D. ENFORCEMENT ACTION *(If yes, specify in Part E whether the case will be primarily managed by the EPA or the State and what type of enforcement action is anticipated.)*					

E. RATIONALE FOR FINAL STRATEGY DETERMINATION

SILICA WASTE DISPOSED THERE. (NON-HAZARDOUS MATERIAL)

F. IF A CASE DEVELOPMENT PLAN HAS BEEN PREPARED, SPECIFY THE DATE PREPARED *(mo., day, & yr.)*	G. IF AN ENFORCEMENT CASE HAS BEEN FILED, SPECIFY THE DATE FILED *(mo., day, & yr.)*

H. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE *(mo., day, & yr.)*
SHIRLEY F. MAXWELL	404/656-2833	MARCH 9, 1982

III. REMEDIAL ACTIONS TO BE TAKEN WHEN RESOURCES BECOME AVAILABLE

List all remedial actions, such as excavation, removal, etc. to be taken as soon as resources become available. See instructions for a list of Key Words for each of the actions to be used in the spaces below. Provide an estimate of the approximate cost of the remedy.

A. REMEDIAL ACTION	B. ESTIMATED COST	C. REMARKS
	$	
	$	
	$	
	$	
	$	
	$	
	$	
	$	
D. TOTAL ESTIMATED COST	$	

Continued From Front

IV. REMEDIAL ACTIONS

A. SHORT TERM/EMERGENCY ACTIONS *(On Site and Off-Site)*: List all emergency actions taken or planned to bring the site under immediate control, e.g., restrict access, provide alternate water supply, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. ACTION START DATE *(mo,day,&yr)*	3. ACTION END DATE *(mo,day,&yr)*	4. ACTION AGENCY *(EPA, State, Private Party)*	5. COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED.
				$	
				$	
				$	
				$	
				$	
				$	

B. LONG TERM STRATEGY *(On Site and Off-Site)*: List all long term solutions, e.g., excavation, removal, ground water monitoring wells, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. ACTION START DATE *(mo,day,&yr)*	3. ACTION END DATE *(mo,day,&yr)*	4. ACTION AGENCY *(EPA, State Private Party)*	5. COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED.
				$	
				$	
				$	
				$	
				$	
				$	

C. MANHOURS AND COST BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL MAN-HOURS FOR REMEDIAL ACTIVITIES	3. TOTAL COST FOR REMEDIAL ACTIVITIES
a. EPA		$
b. STATE		$
c. PRIVATE PARTIES		$
d. OTHER *(specify)*:		$

EPA Form T2070-5 (10-79) REVERSE

EPA

POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION	SITE NUMBER (to be assigned by Hq)
4	588

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

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A. SITE NAME: Atlanta Utility Works

B. STREET (or other identifier): 1504 Washington Avenue

C. CITY: East Point

D. STATE: GA

E. ZIP CODE: 30344

F. COUNTY NAME: Fulton

G. OWNER/OPERATOR (if known)

1. NAME: Allied Chemical Corporation

2. TELEPHONE NUMBER: 404/761-1181

H. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☒ 5. PRIVATE ☐ 6. UNKNOWN

I. SITE DESCRIPTION

1 acre area presently closed and grown over with vegetation used for disposal of 800 tons of solid material (silica)

J. HOW IDENTIFIED (i.e., citizen's complaints, OSHA citations, etc.): Eckhardt Commission Survey

K. DATE IDENTIFIED (mo., day, & yr.): Dec. 1979

L. PRINCIPAL STATE CONTACT

1. NAME: Moses N. McCall, Chief, Land Protection Branch, EPD

2. TELEPHONE NUMBER: 404/656-2833

II. PRELIMINARY ASSESSMENT (complete this section last)

A. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☐ 2. MEDIUM ☐ 3. LOW ☒ 4. NONE ☐ 5. UNKNOWN

B. RECOMMENDATION

☒ 1. NO ACTION NEEDED (*no hazard*)

☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 4. SITE INSPECTION NEEDED (*low priority*)

C. PREPARER INFORMATION

1. NAME: Robert I. Rose

2. TELEPHONE NUMBER: 404/656-2833

3. DATE (mo., day, & yr.): 12-19-79

III. SITE INFORMATION

A. SITE STATUS

☐ 1. ACTIVE (*Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.*)

☒ 2. INACTIVE (*Those sites which no longer receive wastes.*)

☐ 3. OTHER (specify): (*Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.*)

B. IS GENERATOR ON SITE?

☒ 1. NO ☐ 2. YES (*specify generator's four-digit SIC Code*):

C. AREA OF SITE (in acres): 1

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES

1. LATITUDE (deg.-min.-sec.):

2. LONGITUDE (deg.-min.-sec.):

E. ARE THERE BUILDINGS ON THE SITE?

☒ 1. NO ☐ 2. YES (*specify*):

Continued From Front

IV. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	'X'	B. STORER	'X'	C. TREATER	'X'	D. DISPOSER
	1. RAIL	X	1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION	X	3. OPEN DUMP
X	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS. TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify): None		

E. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED

Disposal of silica - pH 3.5

V. WASTE RELATED INFORMATION

A. WASTE TYPE

☐ 1. UNKNOWN ☐ 2. LIQUID ☒ 3. SOLID ☐ 4. SLUDGE ☐ 5. GAS

B. WASTE CHARACTERISTICS

☐ 1. UNKNOWN ☐ 2. CORROSIVE ☐ 3. IGNITABLE ☐ 4. RADIOACTIVE ☐ 5. HIGHLY VOLATILE
☐ 6. TOXIC ☐ 7. REACTIVE ☐ 8. INERT ☐ 9. FLAMMABLE

☐ 10. OTHER (specify): None

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

Records and estimates

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT	AMOUNT	AMOUNT	AMOUNT	AMOUNT 800	AMOUNT
UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE tons	UNIT OF MEASURE
'X' (1) PAINT, PIGMENTS	'X' (1) OILY WASTES	'X' (1) HALOGENATED SOLVENTS	'X' (1) ACIDS	'X' (1) FLYASH	'X' (1) LABORATORY PHARMACEUT.
(2) METALS SLUDGES	(2) OTHER (specify):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMLTG. WASTES	(4) MUNICIPAL
(5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER (specify):
			(6) CYANIDE	X (6) OTHER (specify): Silica residuals pH 3.5	
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			(10) METALS		
			(11) OTHER (specify)		

 Continue On Page 3

Continued From Page 2

V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE *(place in descending order of hazard).*

None

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

None

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	D. DATE OF INCIDENT (mo., day, yr.)	E. REMARKS
1. NO HAZARD				No Hazard
2. HUMAN HEALTH				
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY				
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER				
8. CONTAMINATION OF SURFACE WATER				
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL				
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS				
13. CONTAMINATION OF SOIL				
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUIDS				
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER *(specify):*				

Continued From Front

VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE.

- [ ] 1. NPDES PERMIT
- [ ] 2. SPCC PLAN
- [ ] 3. STATE PERMIT *(specify)*:
- [ ] 4. AIR PERMITS
- [ ] 5. LOCAL PERMIT
- [ ] 6. RCRA TRANSPORTER
- [ ] 7 RCRA STORER
- [ ] 8. RCRA TREATER
- [ ] 9 RCRA DISPOSER
- [ ] 10. OTHER *(specify)*: None

B. IN COMPLIANCE?

- [ ] 1. YES
- [ ] 2. NO
- [X] 3. UNKNOWN

4. WITH RESPECT TO *(list regulation name & number)*: Rules & Regs for Solid Waste Mgt. 391-3-4

VIII. PAST REGULATORY ACTIONS

- [X] A. NONE
- [ ] B. YES *(summarize below)*

IX. INSPECTION ACTIVITY *(past or on-going)*

- [ ] A NONE
- [X] B. YES *(complete items 1,2,3, & 4 below)*

1. TYPE OF ACTIVITY	2 DATE OF PAST ACTION *(mo., day, & yr.)*	3 PERFORMED BY: *(EPA/State)*	4. DESCRIPTION
Survey	None	EPD	Eckhardt Survey

X. REMEDIAL ACTIVITY *(past or on-going)*

- [X] A. NONE
- [ ] B. YES *(complete items 1, 2, 3, & 4 below)*

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION *(mo., day, & yr.)*	3. PERFORMED BY: *(EPA/State)*	4. DESCRIPTION

NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment *(Section II)* information on the first page of this form.

EPA

POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION: 4

SITE NUMBER (to be assigned by Hq): ~~588~~ GA000000700

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II *(Preliminary Assessment)*. File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force *(EN-335)*; 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME: Atlanta Utility Works

B. STREET (or other identifier): 1504 Washington Avenue

C. CITY: East Point

D. STATE: GA

E. ZIP CODE: 30344

F. COUNTY NAME: Fulton

G. OWNER/OPERATOR (if known)

1. NAME: Allied Chemical Corporation
2. TELEPHONE NUMBER: 404/761-1181

H. TYPE OF OWNERSHIP

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4 MUNICIPAL ☒ 5. PRIVATE ☐ 6 UNKNOWN

I. SITE DESCRIPTION

1 acre area presently closed and grown over with vegetation used for disposal of 800 tons of solid material (silica)

J. HOW IDENTIFIED (i.e., citizen's complaints, OSHA citations, etc.): Eckhardt Commission Survey

K. DATE IDENTIFIED (mo., day, & yr.): Dec. 1979

L. PRINCIPAL STATE CONTACT

1. NAME: Moses N. McCall, Chief, Land Protection Branch, EPD
2. TELEPHONE NUMBER: 404/656-2833

II. PRELIMINARY ASSESSMENT *(complete this section last)*

A. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☐ 2. MEDIUM ☐ 3. LOW ☒ 4 NONE ☐ 5 UNKNOWN

B. RECOMMENDATION

☒ 1. NO ACTION NEEDED *(no hazard)*

☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 4. SITE INSPECTION NEEDED *(low priority)*

C. PREPARER INFORMATION

1. NAME: Robert I. Rose
2. TELEPHONE NUMBER: 404/656-2833
3. DATE (mo., day, & yr.): 12-19-79

III. SITE INFORMATION

A. SITE STATUS

☐ 1. ACTIVE *(Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)*

☒ 2. INACTIVE *(Those sites which no longer receive wastes.)*

☐ 3. OTHER *(specify)*: *(Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)*

B. IS GENERATOR ON SITE?

☒ 1. NO ☐ 2. YES *(specify generator's four-digit SIC Code)*:

C. AREA OF SITE (in acres): 1

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES

1. LATITUDE (deg.—min.—sec.):
2. LONGITUDE (deg.—min.—sec.):

E. ARE THERE BUILDINGS ON THE SITE?

☒ 1. NO ☐ 2. YES *(specify)*:

T2070-2 (10-79)

Continue On Reverse

Continued From Front

IV. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	'X'	B. STORER	'X'	C. TREATER	'X'	D. DISPOSER
	1. RAIL	X	1. PILE		1. FILTRATION		1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION	X	3. OPEN DUMP
X	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS. TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify): None		

E. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED

Disposal of silica - pH 3.5

V. WASTE RELATED INFORMATION

A. WASTE TYPE

☐ 1. UNKNOWN ☐ 2. LIQUID ☒ 3. SOLID ☐ 4. SLUDGE ☐ 5. GAS

B. WASTE CHARACTERISTICS

☐ 1. UNKNOWN ☐ 2. CORROSIVE ☐ 3. IGNITABLE ☐ 4. RADIOACTIVE ☐ 5. HIGHLY VOLATILE
☐ 6. TOXIC ☐ 7. REACTIVE ☐ 8. INERT ☐ 9. FLAMMABLE

☐ 10. OTHER (specify): None

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

Records and estimates

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

	a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT					800	
UNIT OF MEASURE					tons	
	(1) PAINT, PIGMENTS	(1) OILY WASTES	(1) HALOGENATED SOLVENTS	(1) ACIDS	(1) FLYASH	(1) LABORATORY PHARMACEUT.
	(2) METALS SLUDGES	(2) OTHER (specify):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
	(3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
	(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMLTG. WASTES	(4) MUNICIPAL
	(5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER (specify):
				(6) CYANIDE	X (6) OTHER (specify): Silica residuals pH 3.5	
				(7) PHENOLS		
				(8) HALOGENS		
				(9) PCB		
				(10) METALS		
				(11) OTHER (specify)		

Continue On Page 3

Continued From Page 2

V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of hazard).

None

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

None

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	D. DATE OF INCIDENT (mo., day, yr.)	E. REMARKS
1. NO HAZARD				No Hazard
2. HUMAN HEALTH				
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY				
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER				
8. CONTAMINATION OF SURFACE WATER				
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL				
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS				
13. CONTAMINATION OF SOIL				
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/RUNOFF/STANDING LIQUIDS				
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER (specify):				

Continue On Reverse

Continued From Front

VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE.

- [ ] 1. NPDES PERMIT
- [ ] 2. SPCC PLAN
- [ ] 3. STATE PERMIT *(specify)*:
- [ ] 4. AIR PERMITS
- [ ] 5. LOCAL PERMIT
- [ ] 6. RCRA TRANSPORTER
- [ ] 7 RCRA STORER
- [ ] 8. RCRA TREATER
- [ ] 9 RCRA DISPOSER
- [ ] 10. OTHER *(specify)*: None

B. IN COMPLIANCE?

- [ ] 1. YES
- [ ] 2. NO
- [X] 3. UNKNOWN

4. WITH RESPECT TO *(list regulation name & number)*: Rules & Regs for Solid Waste Mgt. 391-3-4

VIII. PAST REGULATORY ACTIONS

- [X] A. NONE
- [ ] B. YES *(summarize below)*

IX. INSPECTION ACTIVITY *(past or on-going)*

- [ ] A NONE
- [X] B. YES *(complete items 1,2,3, & 4 below)*

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION *(mo., day, & yr.)*	3. PERFORMED BY: *(EPA/State)*	4. DESCRIPTION
Survey	None	EPD	Eckhardt Survey

X. REMEDIAL ACTIVITY *(past or on-going)*

- [X] A. NONE
- [ ] B. YES *(complete items 1, 2, 3, & 4 below)*

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION *(mo., day, & yr.)*	3. PERFORMED BY: *(EPA/State)*	4. DESCRIPTION

NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment *(Section II)* information on the first page of this form.

GAD003279387

POTENTIAL HAZARDOUS WASTE SITE
FINAL STRATEGY DETERMINATION

EPA

REGION	SITE NUMBER
IV	GA0000000700 ~~588~~

File this form in the regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force *(EN-335)*; 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME ATLANTA UNTILITY WORKS	B. STREET 1504 WASHINGTON AVENUE	
C. CITY EAST POINT	D. STATE GEORGIA	E. ZIP CODE 30344

II. FINAL DETERMINATION

Indicate the recommended action*(s)* and agency*(ies)* that should be involved by marking 'X' in the appropriate boxes.

RECOMMENDATION	MARK 'X'	ACTION AGENCY: EPA	STATE	LOCAL	PRIVATE
A. NO ACTION NEEDED	X				
B. REMEDIAL ACTION NEEDED, BUT NO RESOURCES AVAILABLE *(If yes, complete Section III.)*					
C. REMEDIAL ACTION *(If yes, complete Section IV.)*					
D. ENFORCEMENT ACTION *(If yes, specify in Part E whether the case will be primarily managed by the EPA or the State and what type of enforcement action is anticipated.)*					

E. RATIONALE FOR FINAL STRATEGY DETERMINATION

SILICA WASTE DISPOSED THERE. (NON-HAZARDOUS MATERIAL)

F. IF A CASE DEVELOPMENT PLAN HAS BEEN PREPARED, SPECIFY THE DATE PREPARED *(mo., day, & yr.)*	G. IF AN ENFORCEMENT CASE HAS BEEN FILED, SPECIFY THE DATE FILED *(mo., day, & yr.)*

H. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE *(mo., day, & yr.)*
SHIRLEY F. MAXWELL	404/656-2833	MARCH 9, 1982

III. REMEDIAL ACTIONS TO BE TAKEN WHEN RESOURCES BECOME AVAILABLE

List all remedial actions, such as excavation, removal, etc. to be taken as soon as resources become available. See instructions for a list of Key Words for each of the actions to be used in the spaces below. Provide an estimate of the approximate cost of the remedy.

A. REMEDIAL ACTION	B. ESTIMATED COST	C. REMARKS
	$	
	$	
	$	
	$	
	$	
	$	
	$	
	$	
D. TOTAL ESTIMATED COST	$	

EPA Form T2070-5 (10-79)

Continue On Reverse

Continued From Front

IV. REMEDIAL ACTIONS

A. SHORT TERM/EMERGENCY ACTIONS *(On Site and Off-Site)*: List all emergency actions taken or planned to bring the site under immediate control, e.g., restrict access, provide alternate water supply, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. ACTION START DATE (mo,day,&yr)	3. ACTION END DATE (mo,day,&yr)	4. ACTION AGENCY (EPA, State, Private Party)	5. COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED.
				$	
				$	
				$	
				$	
				$	
				$	

B. LONG TERM STRATEGY *(On Site and Off-Site)*: List all long term solutions, e.g., excavation, removal, ground water monitoring wells, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. ACTION START DATE (mo,day,&yr)	3. ACTION END DATE (mo,day,&yr)	4. ACTION AGENCY (EPA, State Private Party)	5. COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED.
				$	
				$	
				$	
				$	
				$	
				$	

C. MANHOURS AND COST BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL MAN-HOURS FOR REMEDIAL ACTIVITIES	3. TOTAL COST FOR REMEDIAL ACTIVITIES
a. EPA		$
b. STATE		$
c. PRIVATE PARTIES		$
d. OTHER *(specify)*:		$

SITE DATA
****

EPA ID NO.: GAD003279387 SHEET 01

(ACTION : *__* - FOR DATA ENTRY USE ONLY)

SF ID: *___* *___* *___* SITE NAME: ATLANTA UTILITY WORKS SOURCE: S SOURCE COUNTS:

___ *___* STREET: 1504 WASHINGTON AVE CONG. DIST: 06 NOTIS: 0

NATL PRIORITY: N CITY: EAST POINT ST: GA ZIP: 30344-_____ STS: 1

HRS: *____.__* CNTY NAME: FULTON CNTY CODE: 121 HWDMS: 0

HRS DATE (YY/MM): *___/___* LATITUDE: 33/40/48.0 LONGITUDE: 084/26/30.0 COMPOSITE: 0

RESPONSE TERMINATION (CHECK ONE IF APPLICABLE): PENDING *__* NO FURTHER ACTION X OTHER: 0

ENF. DISP. (CHECK ANY THAT APPLY): NO VIABLE RESP. PARTY *__* VOL. RESP. *__* ENF. RESP. *__* COST RECOV. *__*

RSPO NAME: *________________________* RSPO PHONE: *___-___-____* FED. FAC. (Y/N): N NON-SITE: *__*

SMSA: 0520 USGS HYDRO. UNIT: 03130002 REG. FLD1: *_______* REG. FLD2: *__*

SITE DESCRIPTION: *____*

____

____

____

EVENTS
******

	(ACTION - FOR DATA ENTRY USE ONLY)	EVENT TYPE	DATE (YY/MM) STARTED	DATE (YY/MM) COMPLETED	CONDUCTED BY: EPA	STATE	RESP/PARTY	OTHER	COUNTS
RESPONSE EVENTS	*__*	(X) SITE DISCOVERY (SD)		79/11					
	__	(X) PRELIMINARY ASSESSMENT (PA)	79/12	79/12	X	*__*			
	__	SITE INVESTIGATION (SI)	*__/__*	*__/__*	*__*	*__*			
	__	REMEDIAL ACTION (RD)	*__/__*	*__/__*	*__*	*__*	*__*	*__*	*___*
	__	REMOVAL ACTION (RV)	*__/__*	*__/__*	*__*	*__*	*__*	*__*	*___*
ENFORCE. EVENTS	*__*	ENFORCEMENT INVESTIGATION (EI)	*__/__*	*__/__*	*__*	*__*		*__*	
	__	ADMINISTRATIVE ORDER (AO)	*__/__*	*__/__*	*__*	*__*		*__*	
	__	JUDICIAL ACTION (JA)	*__/__*	*__/__*	*__*	*__*		*__*	

EPA ID NO.: GAD003279387 SHEET 02

SITE NAME: ATLANTA UTILITY WORKS

ALIAS AND ALIAS LOCATION DATA
****

ALIAS (ACTION *__* - FOR DATA ENTRY USE ONLY)

SEQ. NO.: *___* ALIAS NAME: *____* SOURCE: *__*

ALIAS LOCATION (ACTION *__* - FOR DATA ENTRY USE ONLY)

CONTIGUOUS PORTION OF SITE: *__*

STREET: *___________________________________* CONG. DIST.: *___*

CITY: *_____________________________* ST: *___* ZIP: *______-_____*

CNTY NAME: *_____________________________* CNTY CODE: *____*

LAT: *___/___/___.__* LONG.: *____/___/___.__* SMSA: *_____* USGS HYDRO. UNIT: *__________*

ALIAS (ACTION *__* - FOR DATA ENTRY USE ONLY)

SEQ. NO.: *___* ALIAS NAME: *____* SOURCE: *__*

ALIAS LOCATION (ACTION *__* - FOR DATA ENTRY USE ONLY)

CONTIGUOUS PORTION OF SITE: *__*

STREET: *___________________________________* CONG. DIST.: *___*

CITY: *_____________________________* ST: *___* ZIP: *______-_____*

CNTY NAME: *_____________________________* CNTY CODE: *____*

LAT: *___/___/___.__* LONG.: *____/___/___.__* SMSA: *_____* USGS HYDRO. UNIT: *__________*

EPA ID NO.: GAD003279387 SHEET 03

SITE NAME: ATLANTA UTILITY WORKS

SITE COMMENTS
****

(ACTION - FOR DATA ENTRY USE ONLY)	COMMENT NUMBER	COMMENT
__	*____*	*______________________________*
__	*____*	*______________________________*
__	*____*	*______________________________*
__	*____*	*______________________________*
__	*____*	*______________________________*
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U. S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
DATA BASE UPDATED 85/01/03
T.1 - ERRIS TURNAROUND DOCUMENT

EPA ID NO.: GAD003279387   SHEET 04

SITE NAME: ATLANTA UTILITY WORKS

GIONAL ENTRIES
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                                             DESCRIPTION-------------------------------------------------------------------------------------------------
 (ACTION - FOR            ENTRY              ------------------------------------------------   DATE1        DATE2        DATE3       FREE FIELD
ATA ENTRY USE ONLY)       CODE                                                                (YY/MM/DD)   (YY/MM/DD)   (YY/MM/DD)
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